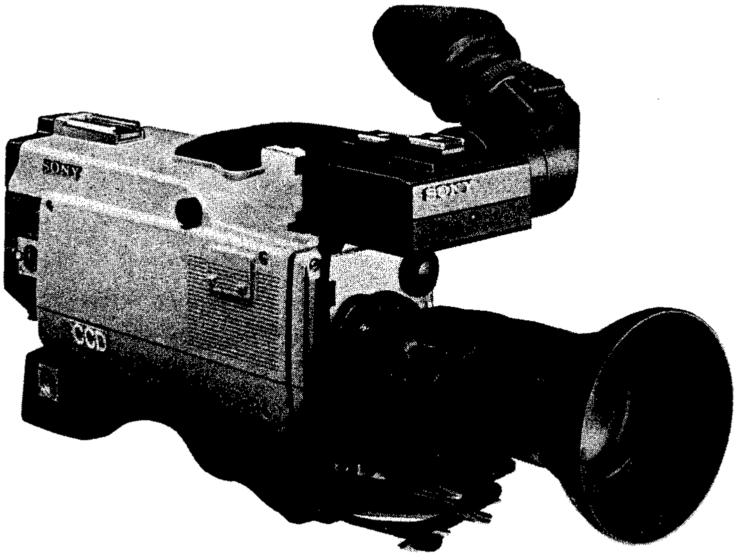
DXC-3000P
DXF-3000CE
VCL-1012BY
DC-8

3-CHIP CCD VIDEO CAMERA
ELECTRONIC VIEWFINDER
LENS
BATTERY ADAPTOR



SONY COMMUNICATION SYSTEMS
SERVICE-ARCHIV CENTRAL SUPPORT

Köhlstr. 27

5000 KÖLN 30

SONY®

SERVICE MANUAL

SAFETY RELATED COMPONENT WARNING

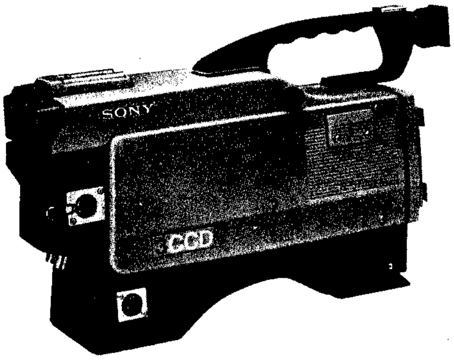
Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

3-CHIP CCD
VIDEO CAMERA HEAD

DXC-3000P

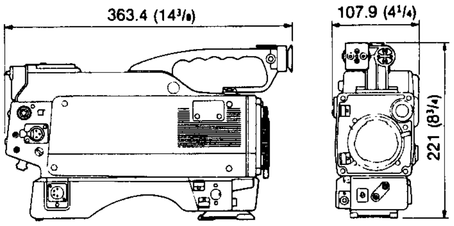


SPECIFICATIONS

Camera (DXC-3000/3000P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 x 492 (h/v) (NTSC) 500 x 582 (h/v) (PAL)
Sensing area	8.8 mm x 6.6 mm (equivalent to a 2/3-inch pickup tube)
Built-in filters	1: 3,200°K 2: 5,600°K + 1/8 ND 3: 5,600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 3000) CCIR standards, PAL color system (for DXC 3000P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	520 lines (center)
Minimum illumination	25 lux with F1.7, + 18 dB
Sensitivity	2,000 lux with F5.6, at 3,200°K (NTSC) 2,000 lux with F5.0, at 3,200°K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	1.0 V(p-p), sync negative, 75 ohms, unbalanced
Signal to noise ratio	56 dB (NTSC) 54 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EAR: mini jack INTERCOM: mini-intercom
Power requirements	12 V DC
Power consumption	9 W (for camera only)
Operating temperature	−5°C to +45°C (23°F to 113°F)
Storage temperature	−20°C to +60°C (−4°F to 140°F)
Weight	3.3 kg (7 lb 4 oz)

Dimensions
Unit: mm (inches)



Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm ($24\frac{1}{4}$ x $32\frac{3}{8}$ inches) T (telephoto): 51.4 x 68.5 mm ($2\frac{1}{32}$ x $2\frac{11}{16}$ inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm ($4\frac{3}{4}$ x $8\frac{1}{32}$ inches)

Viewfinder (DXF-3000/3000CE)

Picture tube indicators	1.5-inch monochrome REC/TALLY indicator BATT indicator LOW LIGHT indicator GAIN UP indicator
Resolution	400 lines
Power requirements	DC 12 V
Power consumption	2.3 W
Weight	Approx. 600 g (1 lb 5 oz)
Dimensions	Approx. 201 x 68 x 184mm (w/h/d) ($7\frac{7}{8}$ x $2\frac{11}{16}$ x $7\frac{1}{4}$ inches)

Carrying case (LC-3001)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 620 x 394 x 234 mm (w/h/d) ($24\frac{7}{16}$ x $15\frac{1}{2}$ x $9\frac{1}{4}$ inches)

SONY®

SERVICE MANUAL

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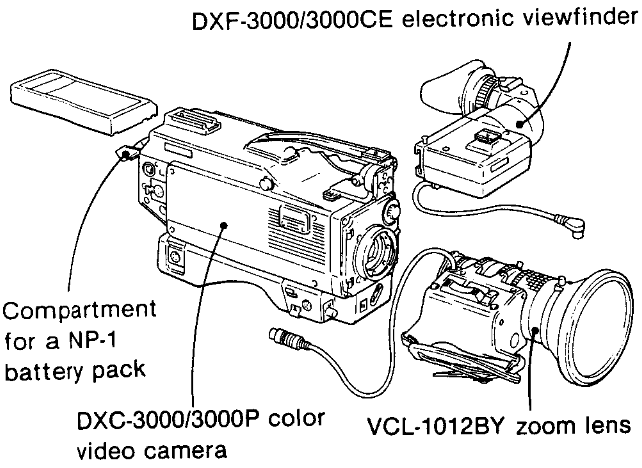
SECTION 1
GENERAL DESCRIPTION

OUTLINE

The DXC-3000/3000P is a portable color video camera which uses a 3-chip CCD (Charge Coupled Device) solid state image sensor. The camera can be used for outdoor recording when used with a portable video cassette recorder, and can also be used as a studio camera when connected to the CCU-M3/M3P camera control unit.

BASIC CONFIGURATION AND FEATURES


DXF-3000/3000CE electronic viewfinder
Compartment for a NP-1 battery pack
DXC-3000/3000P color video camera
VCL-1012BY zoom lens

Adoption of CCD

- Incorporation of a CCD results in a compact, lightweight camera body which consumes less power than does a camera using pickup tube(s).
- Low lag, high resistance to image burning and no deflection distortion.
- The CCD is not affected by vibration and mechanical shock.
- The CCD imager is not influenced by terrestrial magnetism.
- Thanks to the high signal-to-noise ratio, the video output level can be raised by 9 dB or 18 dB to obtain a clear picture under low light conditions.

Various connection capability

- It is possible to connect the camera to a VTR used for home entertainment.
- The camera can be used as a studio camera when connected to a CCU-M3/M3P camera control unit.

Power sources

- A compartment for the NP-1 battery pack is built into the camera. The camera and 1.5-inch viewfinder can be used for about 1.5 hours with a fully charged NP-1 (optional).
- When a DC-8 battery adaptor (optional), containing two NP-1s, is installed, the camera can be used continually for about 3 hours.
- The power can be supplied to the camera from a portable VTR or from the CCU-M3/M3P camera control unit.
- A CMA-8/8CE camera adaptor (optional) is needed if the camera is to be used with the AC power source.

Automatic adjustment and memory functions

- The white balance and black balance are automatically adjusted by a microcomputer, and the adjusted values are retained for about 12 hours while the camera's power is off.
- The black level drift is automatically adjusted, together with the black balance.
- If the entire picture is too bright, the black level is lowered to the appropriate level by the automatic black level (ABL) adjustment so that a picture with good contrast can be obtained.

Display and related functions

- The character generator built into the camera displays title characters to be inserted on the viewfider or monitor during recording.
- In addition to title characters, the operational status of the camera and the warning indications are also displayed on the viewfinder.
- The REC indicator on the viewfinder blinks if a VTR malfunctions.
- Zebra pattern appears on the viewfinder screen when the video output level is about 70 to 80 IRE (for NTSC model) or 490 to 560 mV (for PAL model). This pattern provides a useful reference when the operator manually adjusts the iris.

Easy to operate the viewfinder

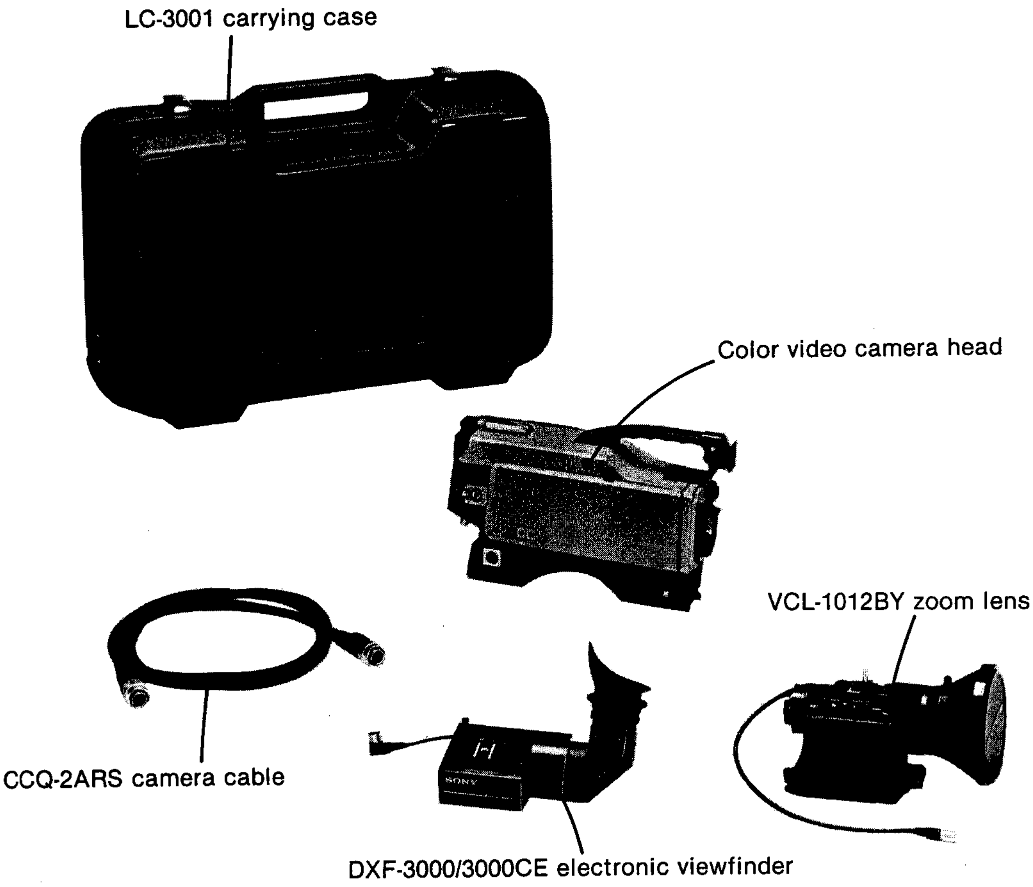
- The diopter can be adjusted to accommodate the operator's visuality.
- The viewfinder can be moved to the right and left.

Other features

- Built-in microphone
- Built-in color temperature conversion filter

COMPOSITION

The DXC-3000/3000P, the DXC-3000K/3000PK and the DXC-3000H/3000PH comprise slightly different components, as noted below. However, the operating procedure for the camera itself is the same.
If you use a zoom lens other than the VCL-1012BY zoom lens, refer to the lens' instruction manual for information about its operation.


LC-3001 carrying case
Color video camera head
VCL-1012BY zoom lens
CCQ-2ARS camera cable
DXF-3000/3000CE electronic viewfinder

Model / Composition	DXC-3000/ 3000P	DXC-3000K/ 3000PK	DXC-3000H/ 3000PH
Color video camera head	Yes	Yes	Yes
Zoom lens VCL-1012BY	No	Yes	No
Viewfinder DXF-3000/3000CE	Yes	Yes	No
Carrying case LC-3001	Yes	Yes	No
Camera cable CCQ-2ARS	Yes	Yes	No

PRECAUTIONS

Safety

- Operate the camera only on 12 V DC. For operation from an ac power line, use the camera adaptor recommended for this camera. Do not use any other camera adaptor.
- Allow adequate air circulation to prevent internal heat build-up.

Operation

- Avoid rough handling or mechanical shock, especially when the lens faces downward.
- Do not operate the camera outside a –5°C to +45°C (23°F to 113°F) temperature range.
- Keep the camera in a horizontal plane.
- Keep the camera away from very strong magnetic fields to avoid distortion and flutter on the screen.
- Do not hold the camera by the viewfinder.

Operation of the viewfinder

Do not point the viewfinder directly at the sun, or the plastic inside the viewfinder may be damaged.

Cleaning

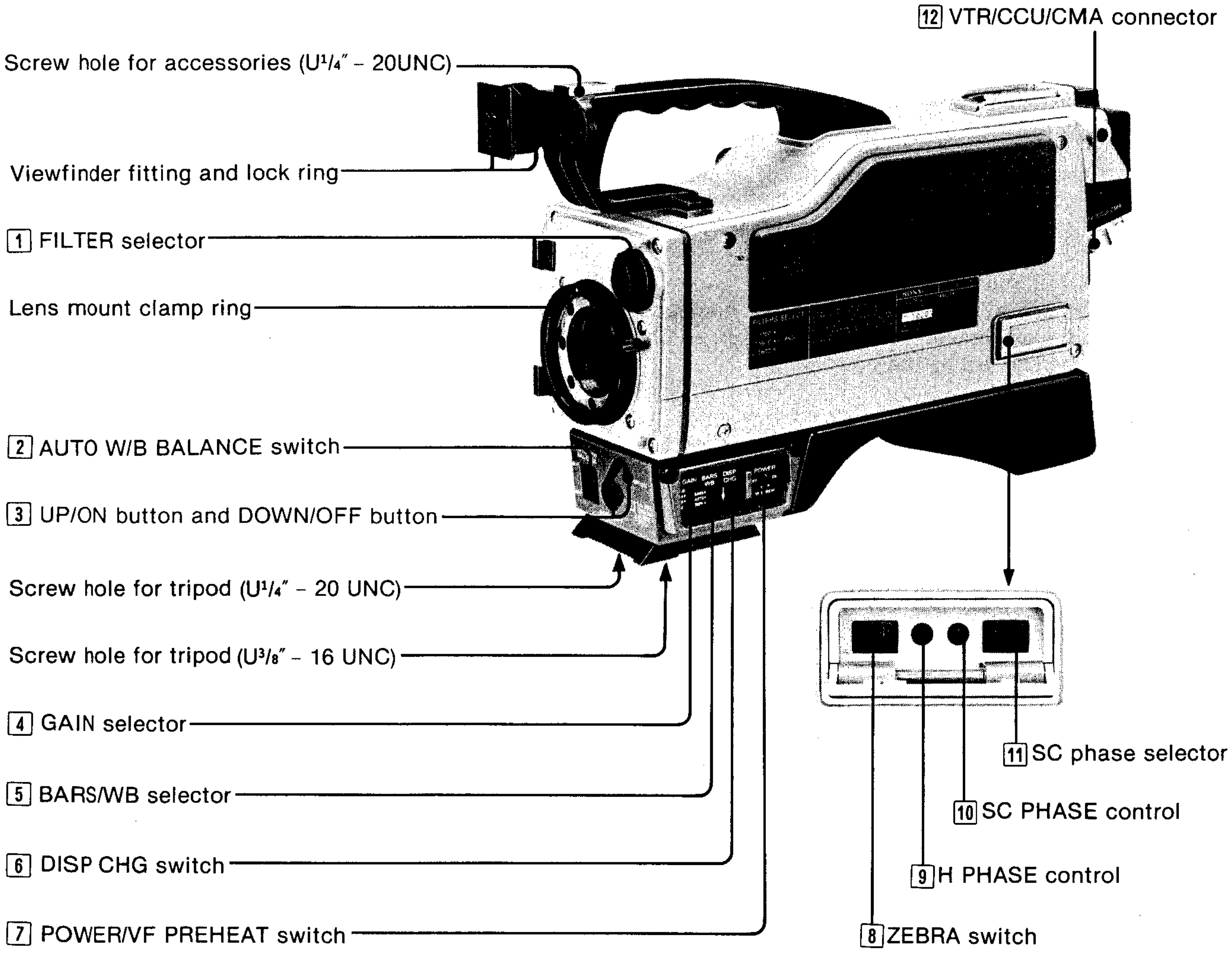
Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

Repacking

Do not discard the carton. It affords maximum protection whenever the camera is transported. Do not transport or ship the camera only in the carrying case. Repack it as it was originally packed at the factory.

Each number in the photo is keyed to the descriptive text.

DXC-3000/3000P COLOR VIDEO CAMERA


[12] VTR/CCU/CMA connector
Screw hole for accessories (U1/4" - 20UNC)
Viewfinder fitting and lock ring
[1] FILTER selector
Lens mount clamp ring
[2] AUTO W/B BALANCE switch
[3] UP/ON button and DOWN/OFF button
Screw hole for tripod (U1/4" - 20 UNC)
Screw hole for tripod (U3/8" - 16 UNC)
[4] GAIN selector
[5] BARS/WB selector
[6] DISP CHG switch
[7] POWER/VF PREHEAT switch
[11] SC phase selector
[10] SC PHASE control
[9] H PHASE control
[8] ZEBRA switch

[1] FILTER selector

Select the appropriate filter as indicated below.

Filter number	Color temperature	Lighting conditions
1	3200°K	Iodine lamp, sunrise or sunset
2	5600°K + 1/8 ND*	Bright outdoor
3	5600°K	Cloudy or rainy

* ND : Neutral density filter

[2] AUTO W/B BALANCE (automatic white/black balance) adjustment switch

When the BARS/WB selector [5] is set to AUTO, white balance and black balance can be automatically adjusted with this switch. Black balance can also be adjusted automatically with this switch when the BARS/WB selector is set to 3200°K.

WHT: For automatic white balance adjustment, set this switch to WHT. The adjusted value will be automatically stored in the memory.

BLK: For automatic black balance and black set level adjustment, set this switch to BLK. The adjusted value will be automatically stored in the memory.

This switch automatically returns to the center position when it is released after being set to WHT or BLK.

[3] UP/ON button and DOWN/OFF button

These buttons are used with the DISP CHG [6] switch (1) to set and position the title characters, (2) to switch the "LOW LIGHT" indication on or off, (3) to raise or lower the reference level of the automatic iris adjustment, or (4) to raise or lower the master pedestal level. For details, refer to "Warning Indicators and Character Display" on page 1-35.

[4] GAIN selector
Normally set this selector to "0". When the selector is set to "9" or "18", the video output level is raised by 9 dB or 18 dB respectively.

[5] BARS/WB (color bar generation/white balance adjustment) selector

BARS: When the selector is set to this position, a color bar signal is generated, supplied to the viewfinder and output from the VIDEO OUT and the camera cable connectors. Use this position for adjusting the video monitor. At this position, the iris of the zoom lens attached to the camera will be automatically closed.

AUTO: Generally set the selector to this position. When the AUTO W/B BALANCE switch [2] is set to WHT or BLK, the white balance or black balance will be automatically adjusted (and stored in the memory). After the adjustment, the memorized white balance and black balance values are always obtained at this position. When the CCU-M3/M3P camera control unit is connected to this camera, set the selector to this position.

3200°K: At this position the white balance is set to the factory preset value of an iodine lamp (3200°K). When the selector is set to this position, set the FILTER selector [1] to an appropriate position. Use this position when there is no time to adjust the white balance. When the BARS/WB selector is set to this position, the automatic white balance adjustment of the AUTO W/B BALANCE switch [2] will not operate. (However, the automatic black balance adjustment of the AUTO W/B BALANCE switch operates.)

[6] DISP CHG (display change) switch
Each time this switch is pressed, the character display on the viewfinder screen changes in the following order: (1) alarm indication, (2) "LOW LIGHT" indication on/off, black balance, white balance, and gain settings, (3) initial indication of title setting and display of set title characters, (4) reference level setting for automatic iris adjustment, and (5) master pedestal level setting. For details, refer to "Warning Indicators and Character Display" on page 1-35.

Note
In the character display modes (3) to (5), the automatic white balance and black balance adjustment systems do not function.

[7] POWER/VF PREHEAT switch

ON: To turn on the camera

OFF: To turn off the camera

VF PREHEAT: To put the viewfinder in the standby mode
The power is supplied only to the viewfinder. When this switch is set to "VF PREHEAT", it is possible to monitor the viewfinder screen immediately after starting to shoot.

[8] ZEBRA switch
This switch is used for manual iris adjustment. When the switch is set to ON, a zebra pattern appears as a reference on the part of the viewfinder screen where the video level of the object is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). If the zebra pattern is not necessary, set this switch to OFF. (See page 1-32.)

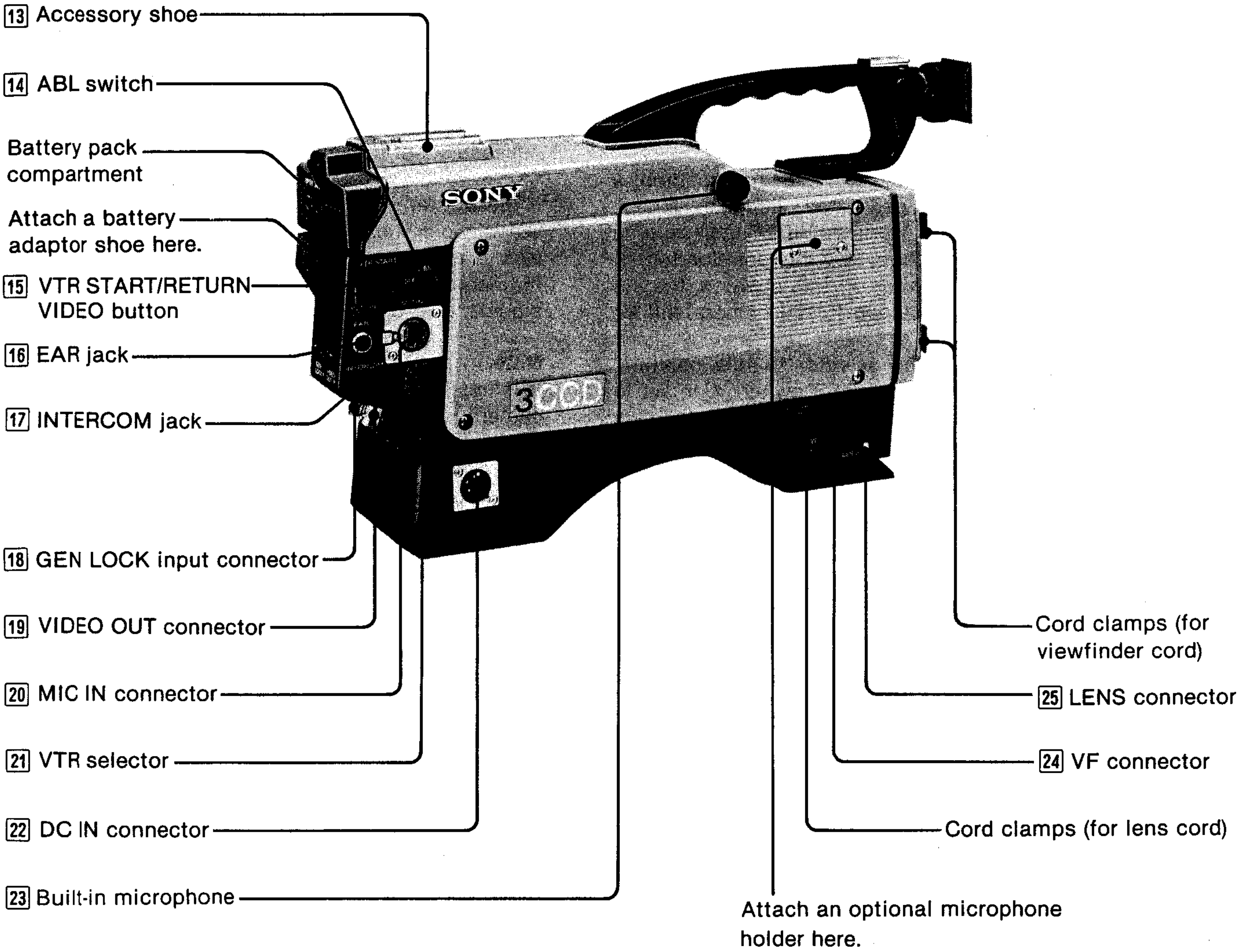
[9] H (horizontal) PHASE control
When two or more cameras are used, turn this control with a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals. (See page 1-34.)

Note
It is not necessary to use this control when only one camera is used.
When a camera control unit is connected, adjust the H phase difference with the H PHASE control of the camera control unit.

[10] SC (subcarrier) PHASE control
When two or more cameras are used, this control is used for fine adjustment of the SC phase after the rough adjustment performed by the SC phase selector [11]. (See page 1-34.)

[11] SC (subcarrier) phase selector
When two or more cameras are used simultaneously, select the SC phase difference between the gen-lock input and video output signals so that it is roughly adjusted to 0° or 180°. (See page 1-34.)

[12] VTR/CCU/CMA connector (Sony Q-type, 14-pin)
This is the camera's main input/output connector. Connect a VTR, a CCU-M3/M3P camera control unit, or a CMA-8/8CE camera adaptor to this connector using the CCQ camera cable.
The title characters, which are displayed on the viewfinder screen, are output from this connector.


13 Accessory shoe
14 ABL switch
Battery pack compartment
Attach a battery adaptor shoe here.
15 VTR START/RETURN VIDEO button
16 EAR jack
17 INTERCOM jack
18 GEN LOCK input connector
19 VIDEO OUT connector
20 MIC IN connector
21 VTR selector
22 DC IN connector
23 Built-in microphone
Cord clamps (for viewfinder cord)
25 LENS connector
24 VF connector
Cord clamps (for lens cord)
Attach an optional microphone holder here.
SONY
3CCD

13 **Accessory shoe**
An optional DXF-40/40CE or DXF-50/50CE viewfinder can be attached here. For viewfinder attachment, refer to the viewfinder's instruction manual.

14 **ABL (automatic black level) switch**
When the entire picture is too bright, such as during outdoor shooting, set this switch to ON. The black level will be reduced to the appropriate level, and a well-contrasted picture will be obtained.
Normally set the switch to OFF.

15 **VTR START/RETURN VIDEO button**
When the camera is connected to a portable VTR, press this button to start recording. To stop recording, press the button again.
If the camera is connected to a CCU-M3/M3P camera control unit, the return video pictures can be monitored on the viewfinder screen while the button is kept depressed. When the button is released, the camera pictures can be monitored.

16 **EAR (earphone) jack** (mini jack)
Connect an earphone to monitor the playback or recording sound from the VTR.

17 **INTERCOM jack** (mini intercom jack)
Connect a DR-100 intercom headset (optional) here. It will be possible to communicate between the camera and the connected camera control unit or a video switcher.

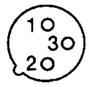
18 **GEN LOCK input connector** (BNC connector)
Connect the gen-lock input signal (VBS or BS) for synchronization here. No connection is necessary when only one camera is used.

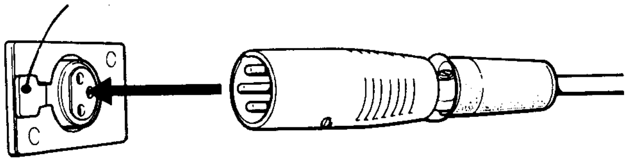
Note
When the gen-lock input signal is connected to the camera, the color framing pulse output from the camera cable connector is automatically cut off.

19 VIDEO OUT (output) connector (BNC connector)
Connect to the video input of the VTR or video monitor. Title characters displayed on the viewfinder screen are also output from this connector.

20 MIC IN (microphone input) connector (XLR 3-pin, unbalanced)
Connect a microphone here.

Pin configuration
1: Ground 2: Cold 3: Hot (for NTSC)
1: Ground 2: Hot 3: Cold (for PAL)




To remove, press here.

Note
The pins No. 1 (ground) and No.3 (hot for NTSC, cold for PAL) are connected inside the camera (unbalanced microphone input). Make sure that the pin configuration of your microphone is the same as shown above. If the microphone connector has a different pin configuration, an adaptor must be used.

21 VTR selector
Selects the VTR start/stop signal levels, etc. in accordance with the type of VTR used. For details, refer to the table on page 1-21.

1: For a VTR equipped with a Q-type (14-pin) camera connector such as the Sony VO-6800/6800PS, BVU-110/110P or for the CCU-M3/M3P.
2: For a VTR equipped with a K-type (14-pin) camera connector, such as the Sony SL-2000 (NTSC), SL-F1E (PAL) or other Betamax VTRs used for home entertainment.
3: For a VHS format VTR manufactured by JVC.
4: For a VHS format VTR manufactured by Panasonic.

Caution
Be sure to set the VTR selector to the correct position for the VTR used. If it is not, the VTR might not operate properly.

22 DC IN (input) connector (XLR 4-pin)
Connect the plug of the DC-8 battery adaptor to supply power from the batteries.

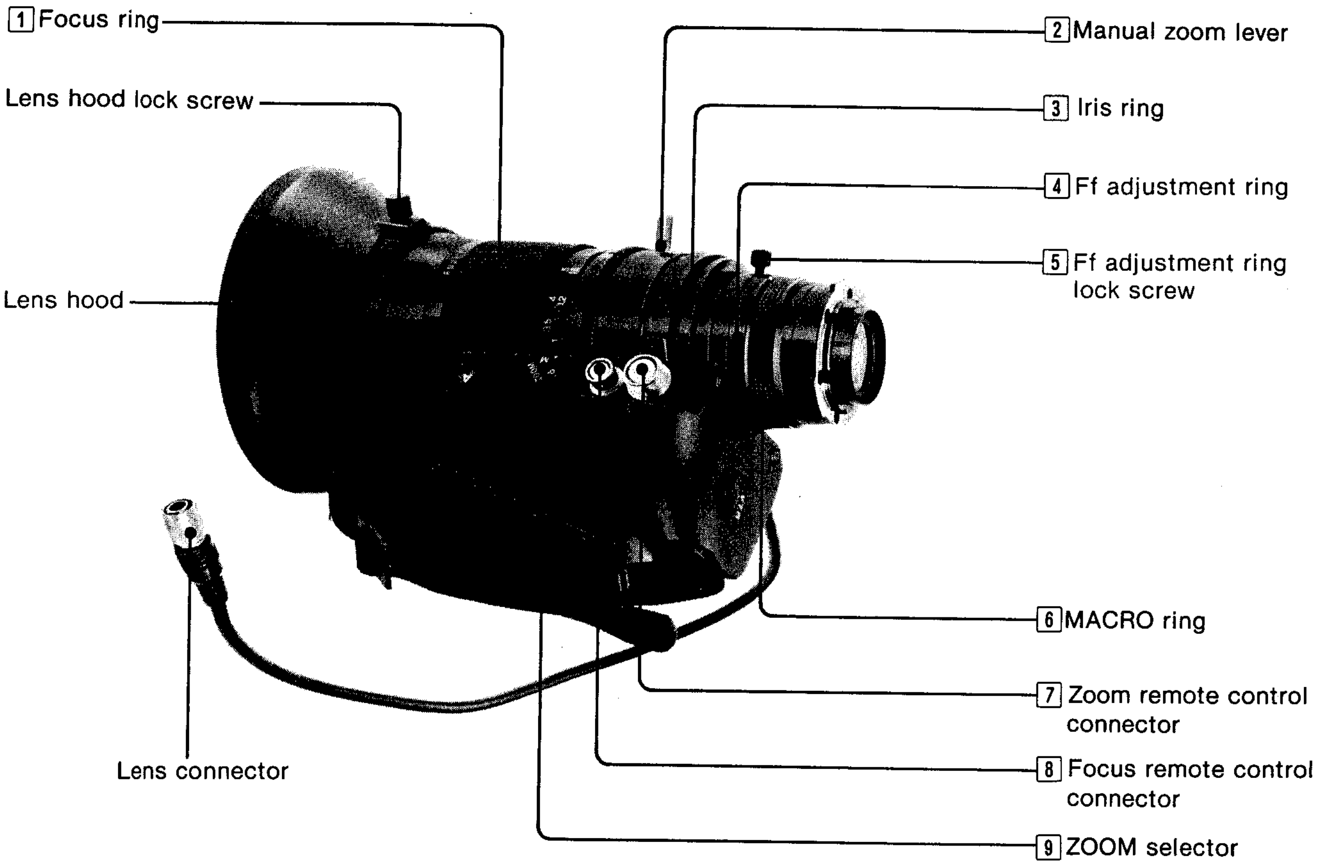
Note
When the battery is connected to this connector, the power is automatically cut off from both an NP-1 inside the battery pack compartment and the VTR/CCU/CMA connector.

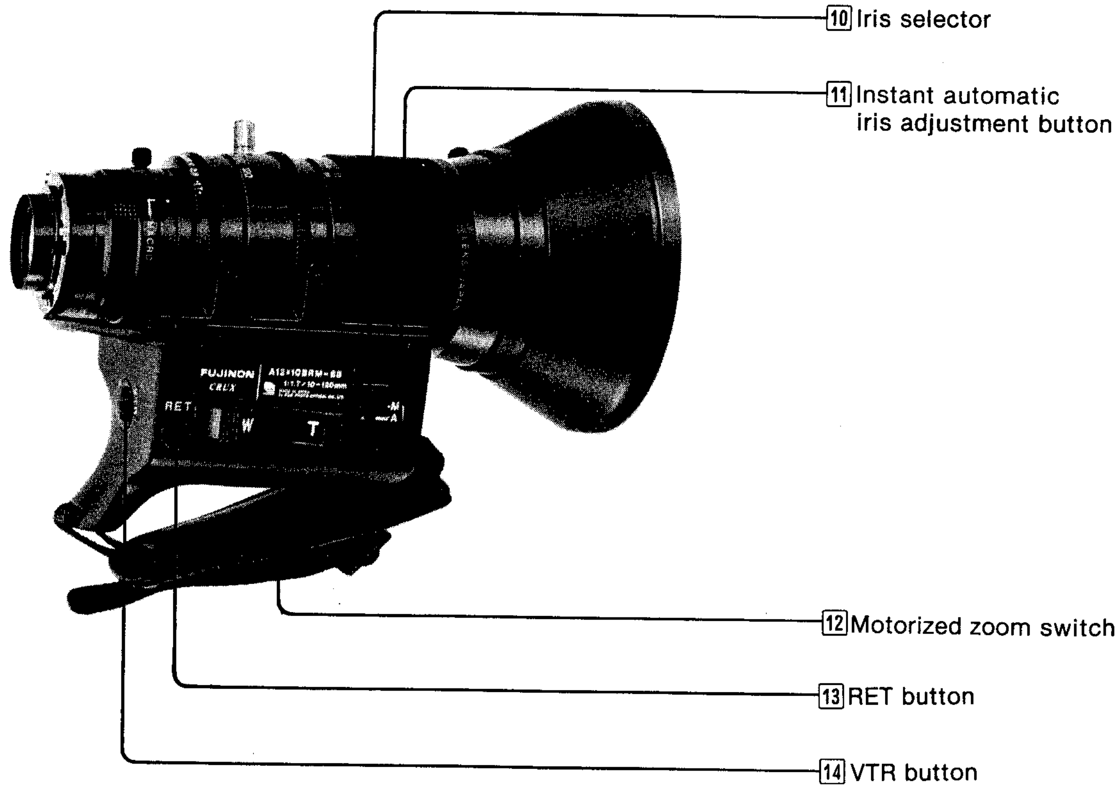
23 Built-in microphone
When the camera cable is connected to a portable VTR, the built-in microphone is automatically connected, so a sound recording can be made simultaneously with the video recording.

24 VF (viewfinder) connector (8-pin)
Connect the plug of the viewfinder.

25 LENS connector (6-pin)
Connect the lens connector plug of the lens here.

VCL-1012BY ZOOM LENS


1 Focus ring
Lens hood lock screw
Lens hood
Lens connector
2 Manual zoom lever
3 Iris ring
4 Ff adjustment ring
5 Ff adjustment ring lock screw
6 MACRO ring
7 Zoom remote control connector
8 Focus remote control connector
9 ZOOM selector


10 Iris selector
11 Instant automatic iris adjustment button
FUJINON
RET
W
T
12 Motorized zoom switch
13 RET button
14 VTR button

1 Focus ring
Turn this ring for focusing.

2 Manual zoom lever
For manual zooming, turn this lever with the ZOOM selector set to M.

3 Iris ring
For manual iris adjustment, turn this ring with the iris selector set to M.

4 Ff (flange focal length) adjustment ring
Turn to adjust the flange focal length. See page 1-26.

5 Ff (flange focal length) adjustment ring lock screw
Locks the Ff ring at the adjusted position.

6 MACRO (close-up) ring
Used for close-ups. See page 1-33.

7 Zoom remote control connector (8-pin)
Connect an LO-23 lens remote control unit (optional) for remote control of zooming when the camera is attached to a tripod.

8 Focus remote control connector (3-pin)
This connector is used for motorized focusing.

9 ZOOM selector
S: For motorized zooming.
M: For manual zooming.

10 Iris selector
A: For automatic iris adjustment.
M: For manual iris adjustment.

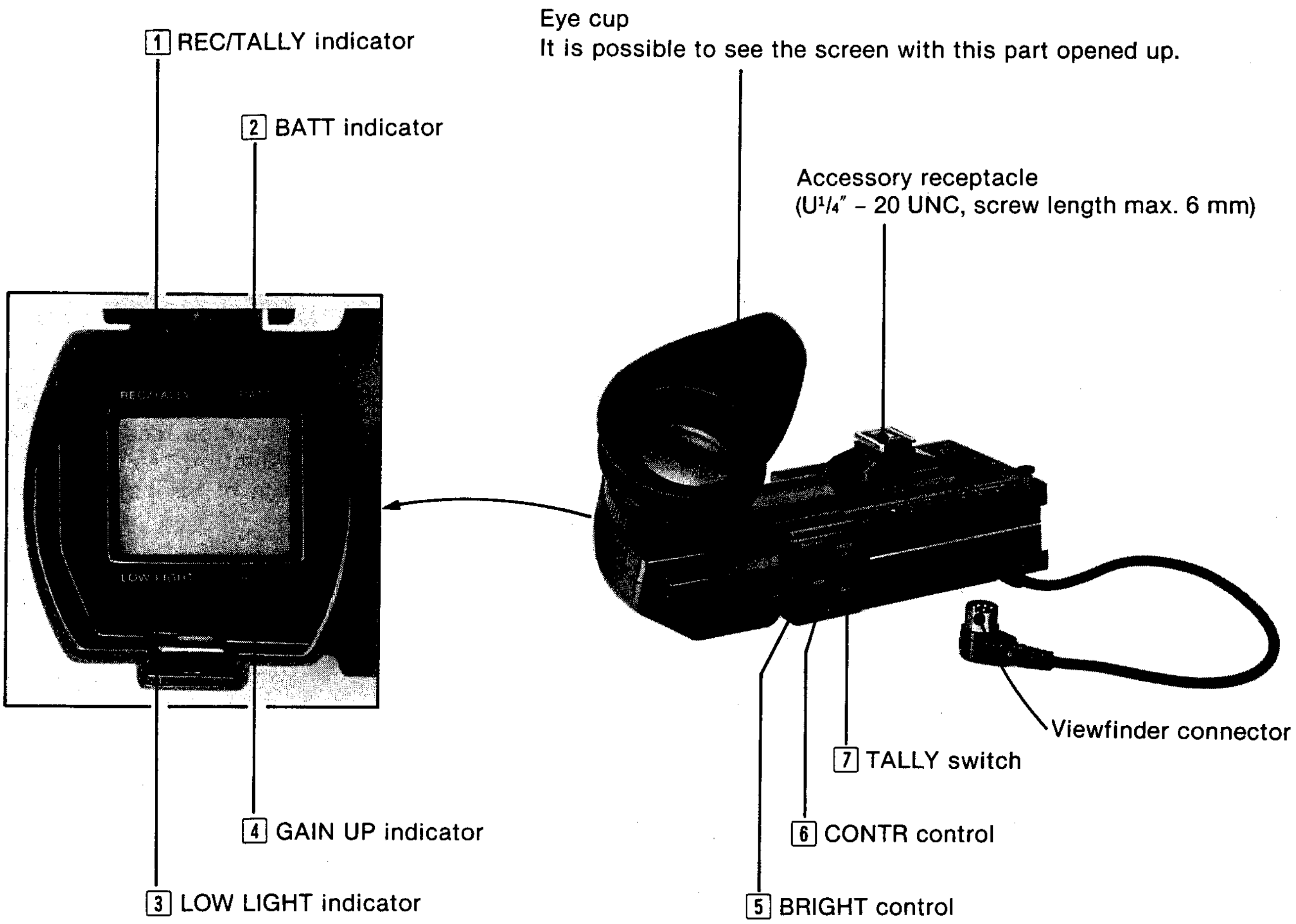
11 Instant automatic iris adjustment button
The iris is automatically adjusted while this button is kept depressed, when the iris selector 10 is set to M. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

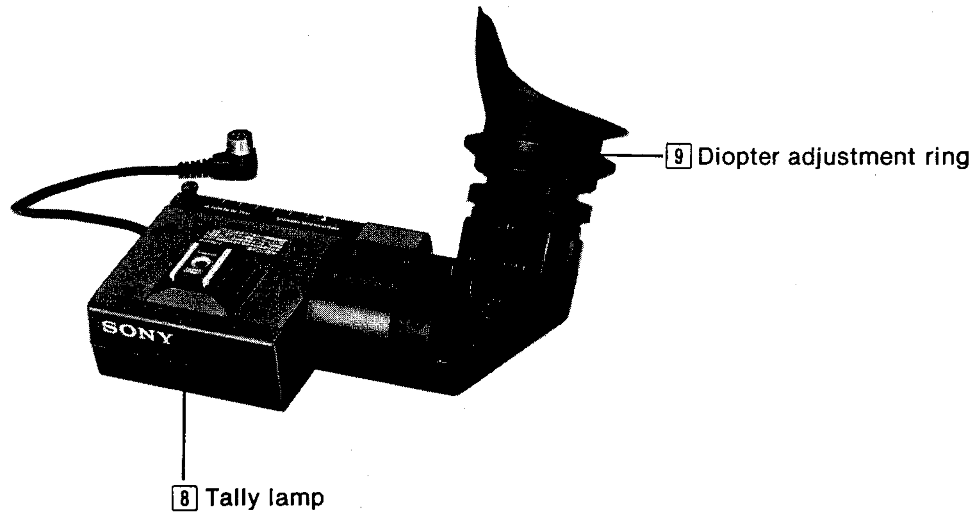
12 Motorized zoom switch
Press either end of this switch for motorized zooming with the ZOOM selector set to S: W for a wide-angle picture and T for a telephoto picture. Zooming is faster when the switch is pressed down all the way and slower when the switch is pressed down only slightly.

13 RET (return video) button
Press to view the picture from the VTR during recording, the playback picture during playback, or the signal from a controle console such as a video switcher on the viewfinder screen. This button has the same function as the VTR START/RETURN VIDEO button of the camera (return video switch) when a CCU-M3/M3P is connected.

14 VTR button
When a portable VTR is connected to the camera, press this button to start and stop recording. This button has the same function as the VTR START/RETURN VIDEO button of the camera (start switch).

DXF-3000/3000CE VIEWFINDER


1 REC/TALLY indicator
2 BATT indicator
Eye cup
It is possible to see the screen with this part opened up.
Accessory receptacle
(U1/4" - 20 UNC, screw length max. 6 mm)
Viewfinder connector
7 TALLY switch
6 CONTR control
5 BRIGHT control
4 GAIN UP indicator
3 LOW LIGHT indicator


9 Diopter adjustment ring
SONY
8 Tally lamp

[1] REC/TALLY indicator

Illuminates during recording with one camera, and illuminates when the camera's picture is selected by a control console, a video switcher, etc., connected to the CCU-M3/M3P camera control unit which is connected to the camera.

The indicator blinks in accordance with the warning system of the VTR.

[2] BATT (battery) indicator

Starts blinking several minutes before the battery of the DC-8 battery adaptor, the VTR or the CCU-M3/M3P is discharged to a level at which it cannot power the VTR or the CCU (about 11 V), and illuminates steadily when the battery has discharged to that level. (For details, refer to the table on page 1-35.)

[3] LOW LIGHT indicator

Lights up when the video output level from the camera is too low due to insufficient lighting. (Even if the indicator is illuminated, the camera will operate, but the recording will be made at a low video output level.)

[4] GAIN UP indicator

Lights up when the GAIN selector is set to 9 dB or 18 dB.

[5] BRIGHT (brightness) control

Adjusts the brightness of the picture on the viewfinder screen. To obtain a brighter picture, turn this control clockwise.

Note

This control does not affect the output signal of the camera.

[6] CONTR (contrast) control

Adjusts the contrast of the picture on the viewfinder screen.

Note

This control does not affect the output signal of the camera.

[7] TALLY switch

The tally lamp [8] can be activated or deactivated if necessary, by setting this switch to ON or OFF.

[8] Tally lamp

When the TALLY switch [7] is set to ON, this lamp operates the same as the REC/TALLY indicator [1].

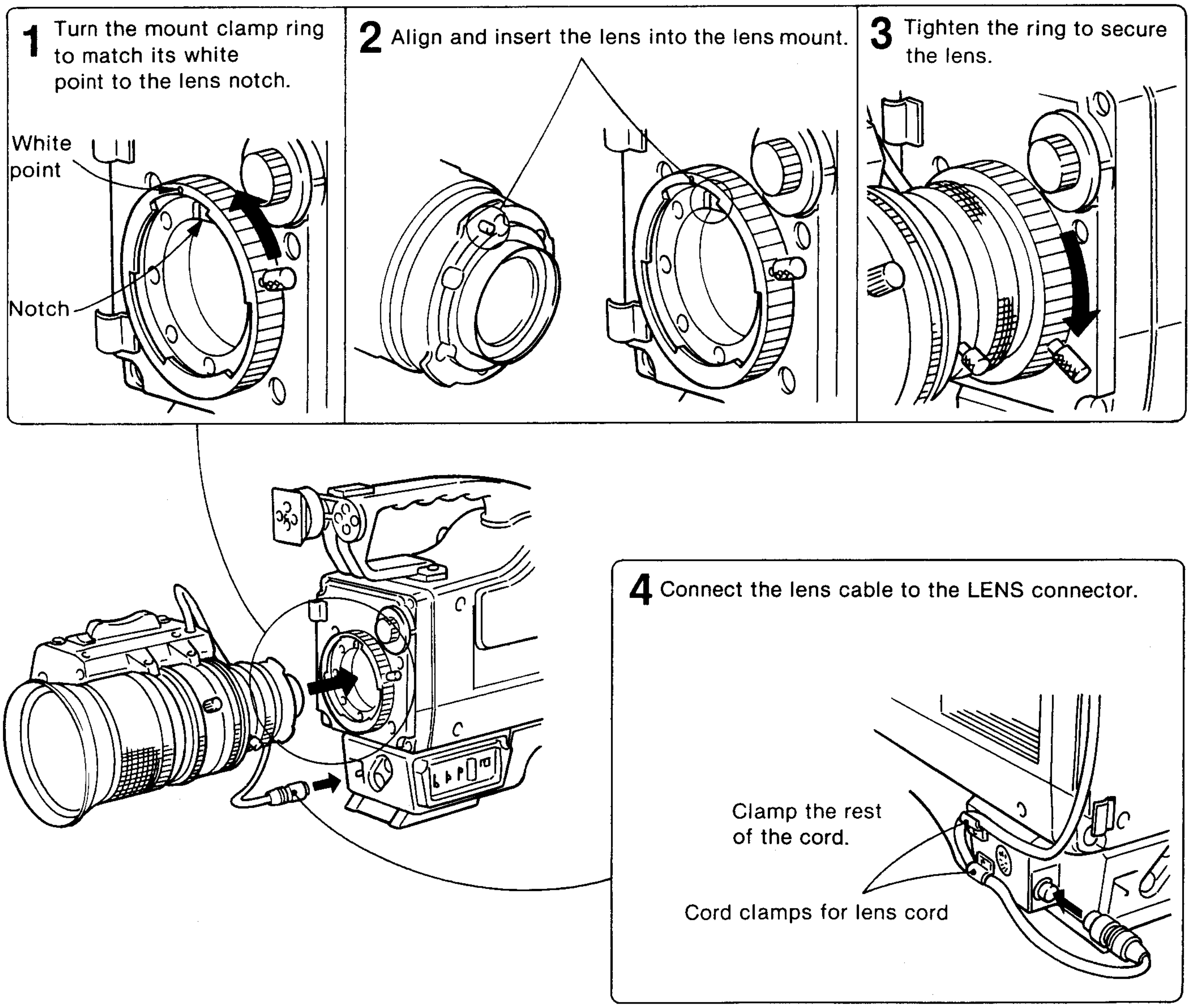
[9] Diopter adjustment ring

Adjusts the diopter. For details about adjustment procedures, refer to page 1-26.

SYSTEM SET-UP

LENS ATTACHMENT

Notes
Before attaching the lens, remove the protective caps from the mounts of the camera and the lens.



1 Turn the mount clamp ring to match its white point to the lens notch.

2 Align and insert the lens into the lens mount.

3 Tighten the ring to secure the lens.

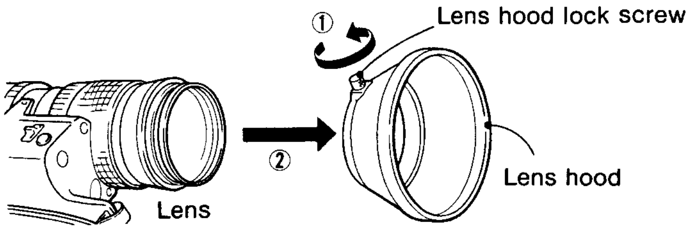
4 Connect the lens cable to the LENS connector.

White point
Notch
Clamp the rest of the cord.
Cord clamps for lens cord

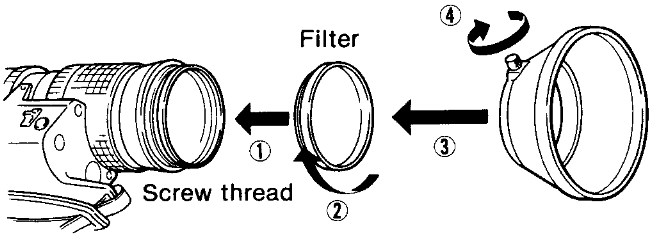
How to attach an optional filter to the lens

1 Loosen the lens hood lock screw and detach the lens hood.

2 Screw the filter into the screw thread at the front of the lens. Then attach the lens hood and tighten the lens hood lock screw.



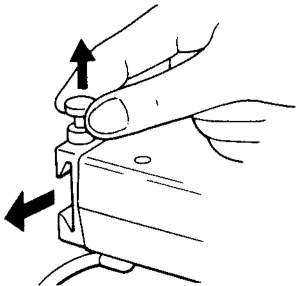
①
Lens hood lock screw
②
Lens hood
Lens



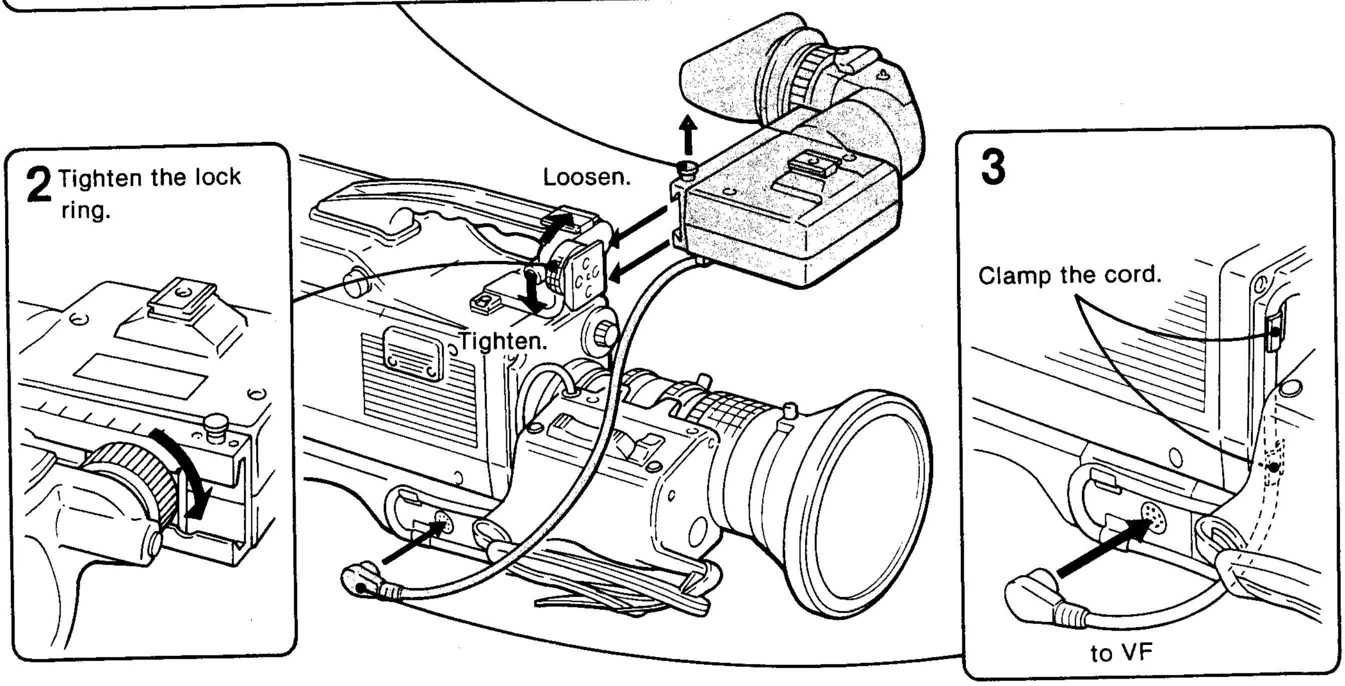
④
Filter
①
③
Screw thread
②

VIEWFINDER ATTACHMENT

1 Loosen the lock ring, and align and slide the viewfinder into the mount, while pulling the pin up.



To detach the viewfinder, loosen the lock ring, and slide the view finder while pulling the pin up.



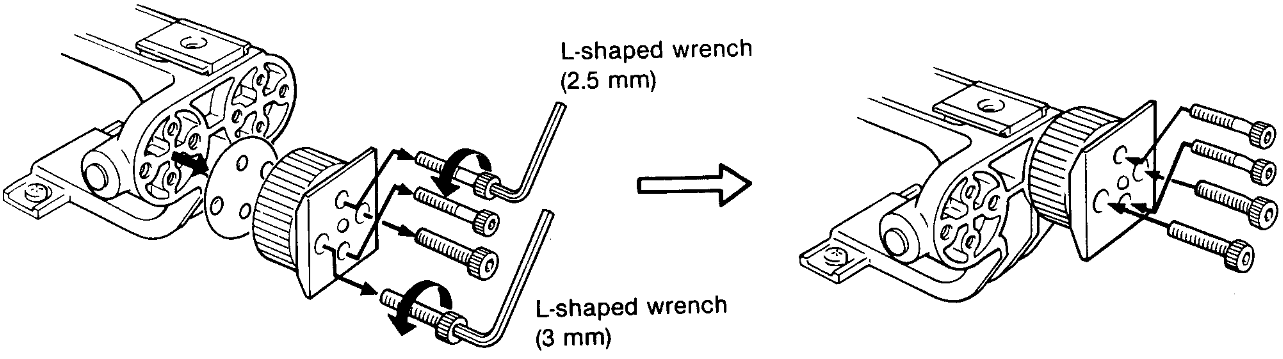
2 Tighten the lock ring.

Loosen.
Tighten.

3

Clamp the cord.
to VF

The position of the viewfinder mount
Change its position if you wish to use the viewfinder with your left eye.



L-shaped wrench
(2.5 mm)
L-shaped wrench
(3 mm)

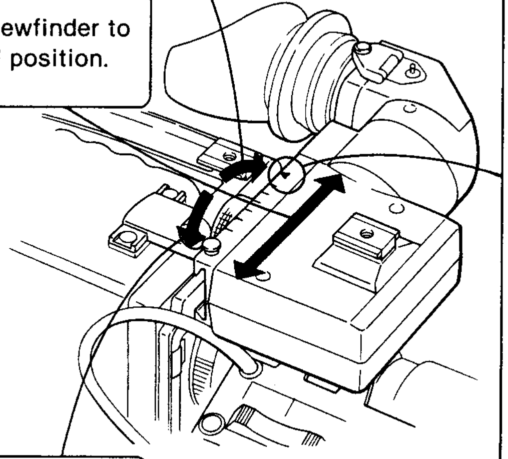
Note
If the viewfinder is mounted in a position other than the original one, the camera cannot be stored in the carrying case. In such a case, remove the viewfinder before storing the camera in the case.

For easy operation of the viewfinder

Adjustment of the horizontal position:

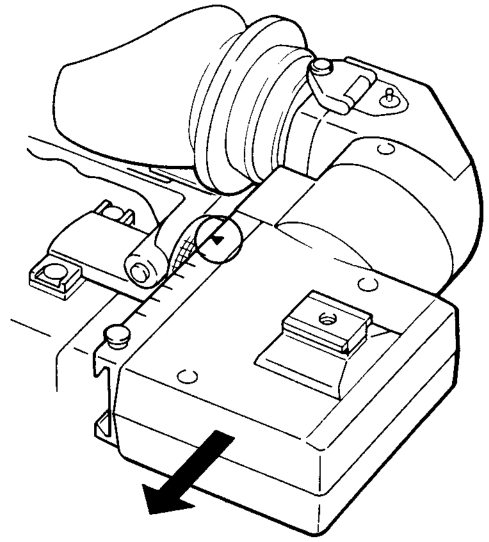
1 Loosen the lock ring.

2 Slide the viewfinder to the desired position.



3 Tighten the ring.

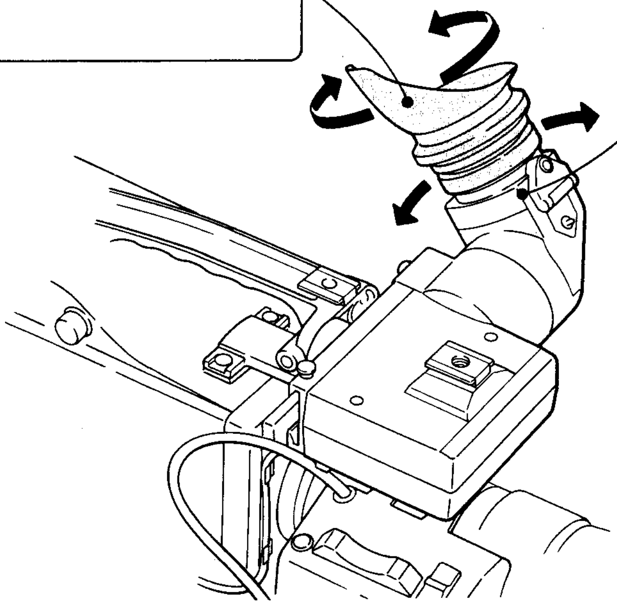
To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the "▼" mark and tighten the lock ring.



The position of the eye cup:

2 Rotate the eye cup to fit the eye used for viewing.

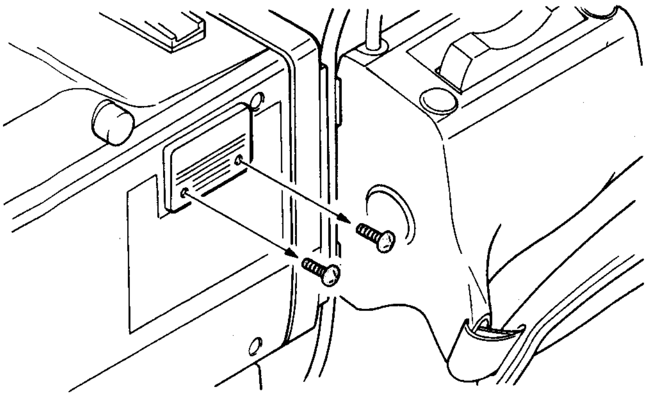
1 Move the eye cup up and down for comfortable use.



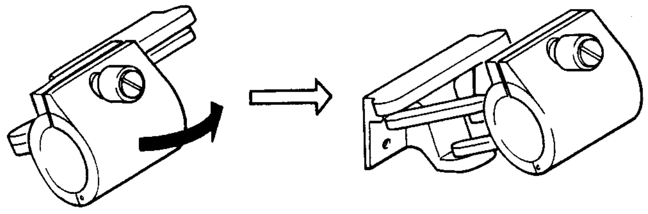
MICROPHONE ATTACHMENT

In order to use the C-74 external microphone (optional), first attach the CAC-11 microphone holder (optional) to the camera head.

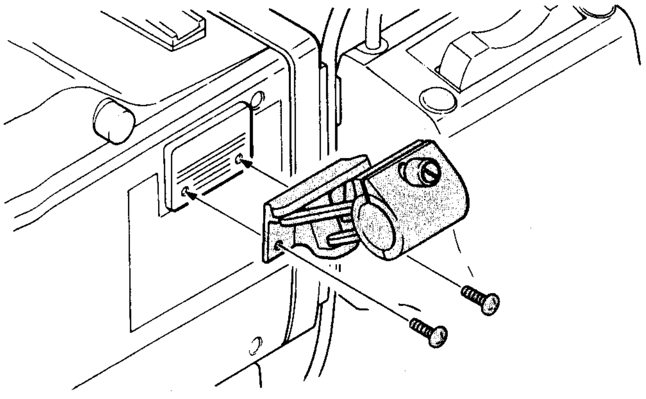
1 Remove the two screws from the side of the camera head.



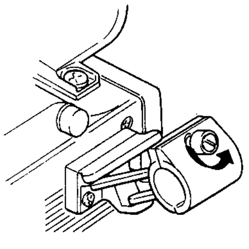
2 Extend the microphone holder as illustrated.



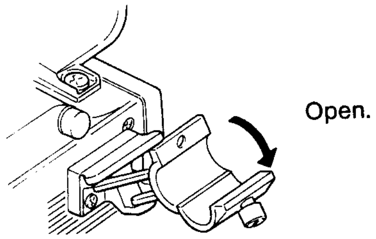
3 Attach the holder to the camera head with the screws which were removed in Step 1.



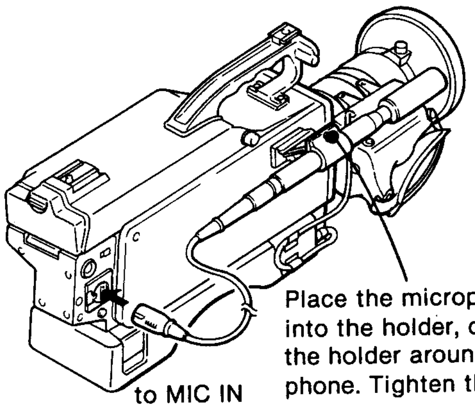
4 Loosen the screw.



5



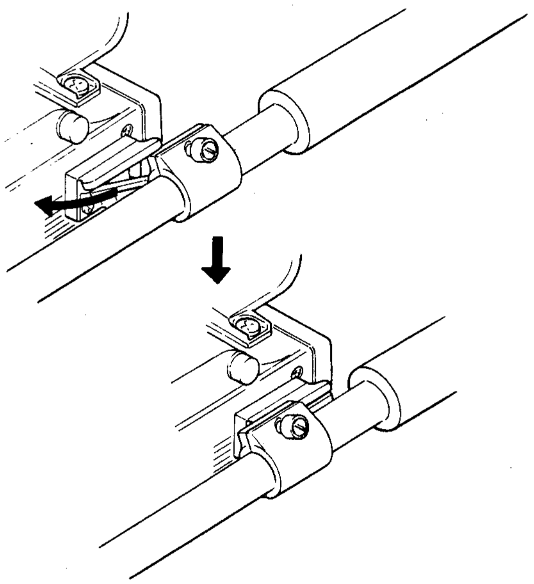
6



Place the microphone into the holder, clamp the holder around the microphone. Tighten the screw.

To store the camera in the carrying case with the microphone mounted

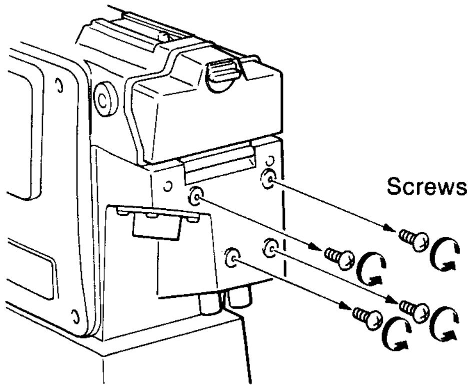
Push the microphone holder in toward the camera as illustrated.



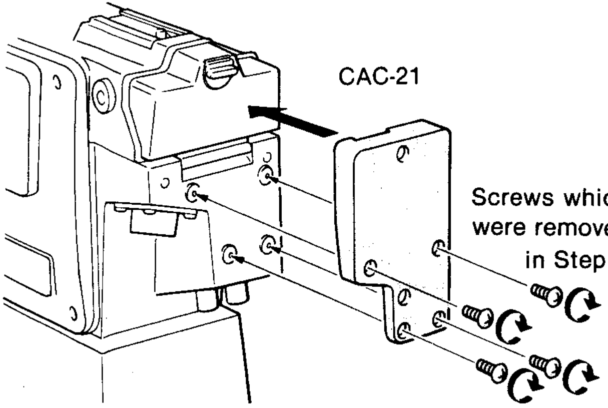
BATTERY ADAPTOR ATTACHMENT

When you wish to use the camera for an extended period of time, attach the DC-8 battery adaptor (optional) to the camera by using the CAC-21 battery shoe (optional). Insert two charged NP-1 battery packs (optional).

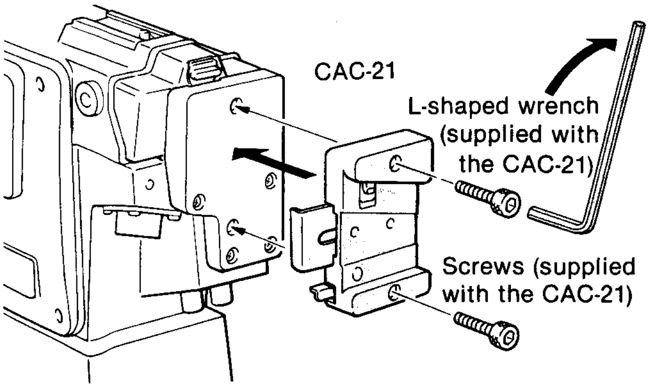
1



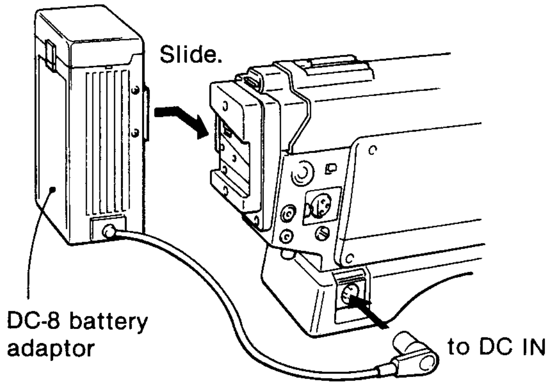
2


CAC-21
Screws which were removed in Step 1

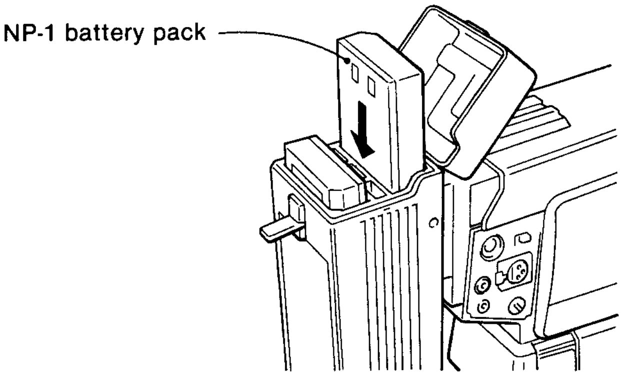
3


CAC-21
L-shaped wrench (supplied with the CAC-21)
Screws (supplied with the CAC-21)

4

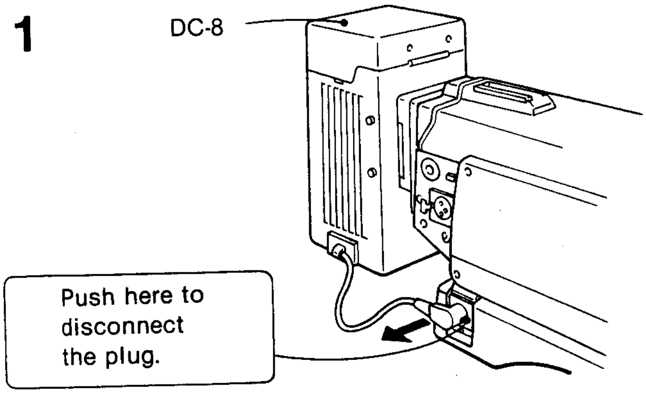

Slide.
DC-8 battery adaptor
to DC IN

5


NP-1 battery pack

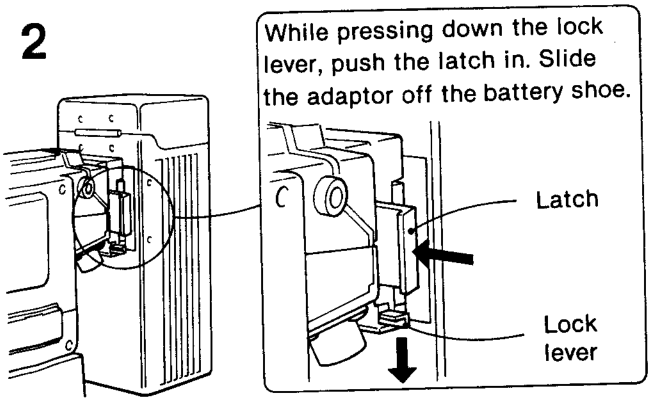
Battery adaptor detachment

1



Push here to disconnect the plug.

2

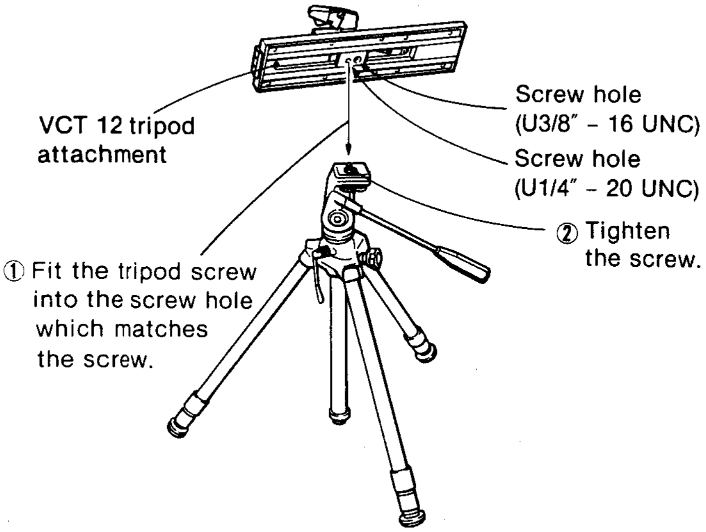


While pressing down the lock lever, push the latch in. Slide the adaptor off the battery shoe.

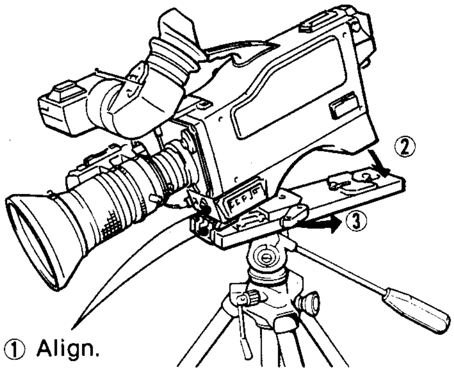
TRIPOD ATTACHMENT

Attach the camera to the tripod using the VCT-12 tripod attachment (optional).

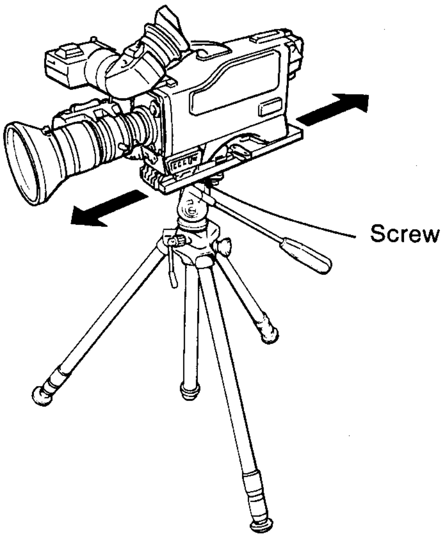
1 Attach the tripod attachment to the tripod.


VCT 12 tripod attachment
Screw hole (U3/8" - 16 UNC)
Screw hole (U1/4" - 20 UNC)
② Tighten the screw.
① Fit the tripod screw into the screw hole which matches the screw.

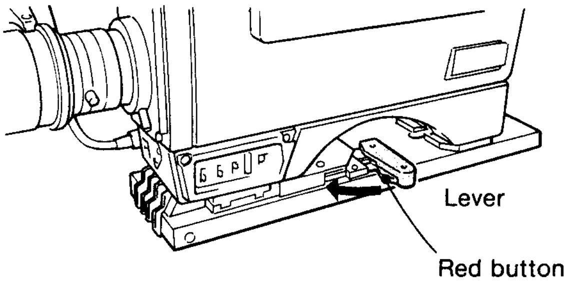
2 Attach the camera.



3 Slightly loosen the tripod screw, and move the camera to be balanced. Tighten the screw.



Camera detachment


Lever
Red button

While depressing the red button, slide the lever to the left to release the lock. Remove the camera.

POWER SOURCES

The DXC-3000/3000P operates on any of the following three types of power sources:

(1) Power from the DC IN connector, using the DC-8 battery adaptor
(2) A built-in NP-1 battery pack
(3) Power from the VTR/CCU/CMA connector
  - Power from the VTR when connecting a portable VTR
  - Power from the CCU when connecting a CCU-M3/M3P camera control unit
  - Power from the camera adaptor when connecting a CMA-8/8CE camera adaptor

Priority of power sources
When two or three of the power sources (1) to (3) are simultaneously connected to the camera, only one of them is used according to numerical order priority, and the other power source(s) is (are) automatically cut off.

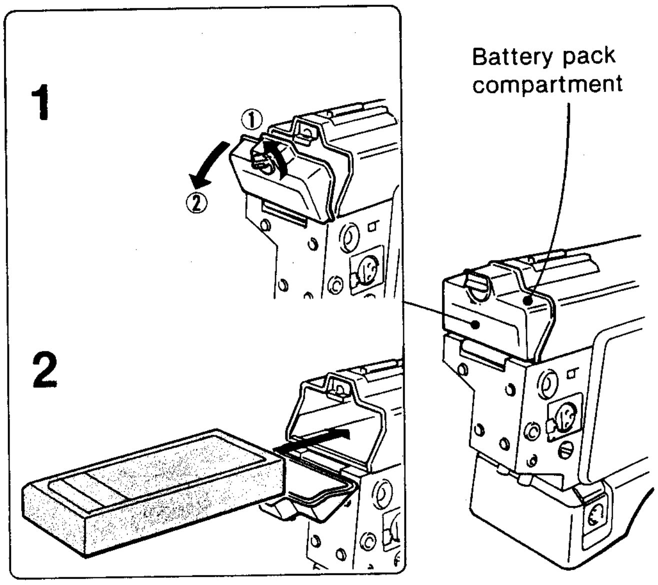
POWER FROM THE DC IN CONNECTOR

When you wish to use the camera for an extended period of time, use a DC-8 battery adaptor which contains two NP-1s. For installation of the DC-8, refer to page 18.

BUILT-IN NP-1 BATTERY PACK

Use a fully charged NP-1 battery pack (optional) by inserting it into the battery pack compartment.

How to insert the NP-1



Battery life

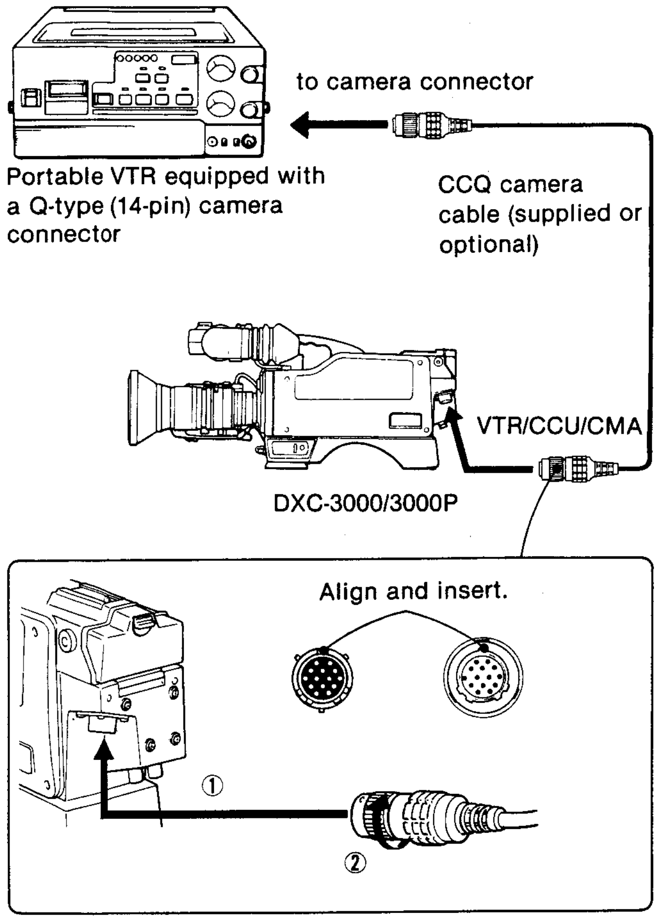
Continuous operation time
When using two fully charged NP-1s: About 3 hours
When using one fully charged NP-1: About 1.5 hours

Battery life warning
When the battery is nearly exhausted, the warning ":BATT: EMPTY?" appears on the viewfinder screen. If you continue to use the battery after the "BATT: EMPTY?" warning has appeared, the BATT indicator of the viewfinder also lights up to indicate that the battery must be replaced immediately.

Battery charging
Recharge the NP-1 battery pack before each use, using the BC-1WA battery charger. It takes about one hour at the normal temperature. For details on recharging, refer to the battery charger's instruction manual.

POWER FROM THE VTR/CCU/CMA CONNECTOR

Power from the portable VTR


to camera connector
Portable VTR equipped with a Q-type (14-pin) camera connector
CCQ camera cable (supplied or optional)
VTR/CCU/CMA
DXC-3000/3000P
Align and insert.
①
②

Notes

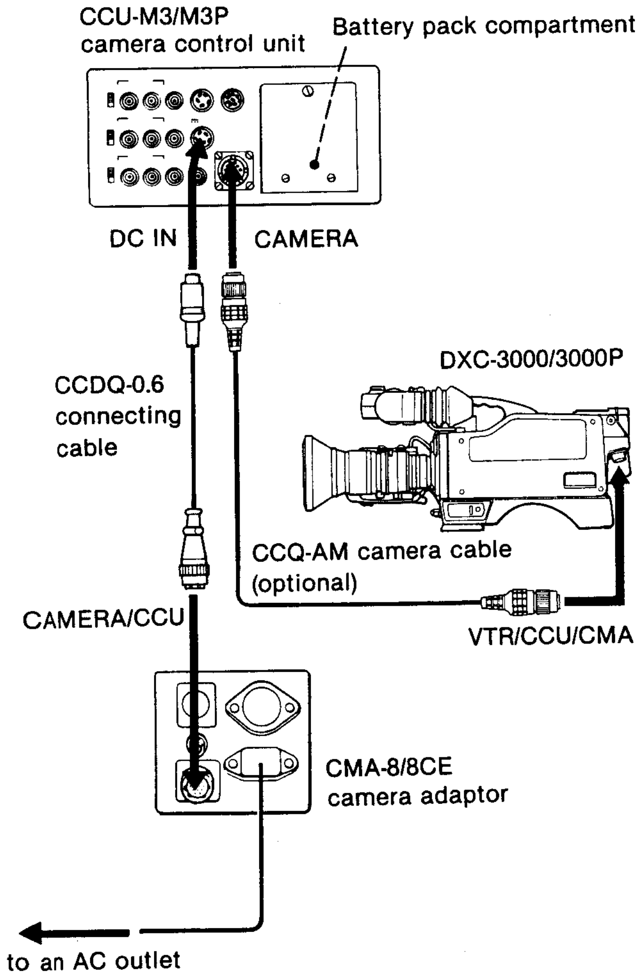
- When the portable VTR is operated from rechargeable battery packs, the continuous operating time of the camera and portable VTR is about 1 hour and 15 minutes at normal temperatures (when the VO-6800/6800PS portable videocassette recorder and two NP-1 battery packs are used). The life of the batteries installed in the portable VTR is indicated by the BATT indicator of the viewfinder. (Refer to page 1-35.)
- Refer to the VTR's instruction manual for information on the power supply to the VTR.

Caution

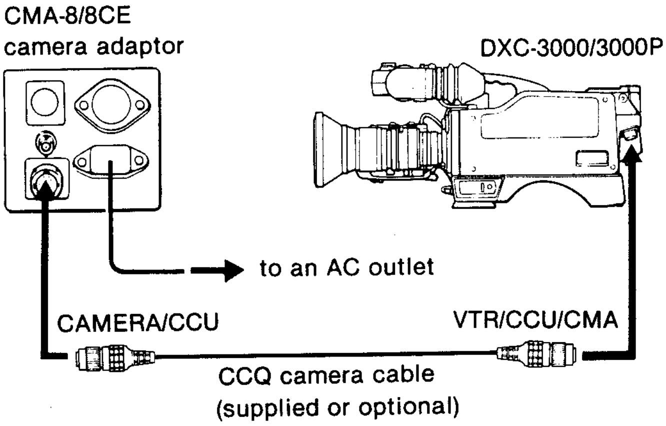
- Before operating the camera, make sure that the power supplied from the VTR to the camera is sufficient. If the power supply capacity of the VTR is not sufficient, the camera must be powered independently.
- When a portable VTR equipped with a K-type (14-pin) camera connector is used, the camera must be powered independently, because power is not supplied through the CCQK cable.

Power from the CCU-M3/M3P camera control unit

When the CCU is powered by the battery pack, the life of the battery pack installed in the CCU is indicated by the BATT indicator of the viewfinder.
For details on the power sources for the CCU, refer to the CCU's instruction manual.


CCU-M3/M3P
camera control unit
Battery pack compartment
DC IN
CAMERA
CCDQ-0.6
connecting
cable
DXC-3000/3000P
CCQ-AM camera cable
(optional)
CAMERA/CCU
VTR/CCU/CMA
CMA-8/8CE
camera adaptor
to an AC outlet

Power from the camera adaptor

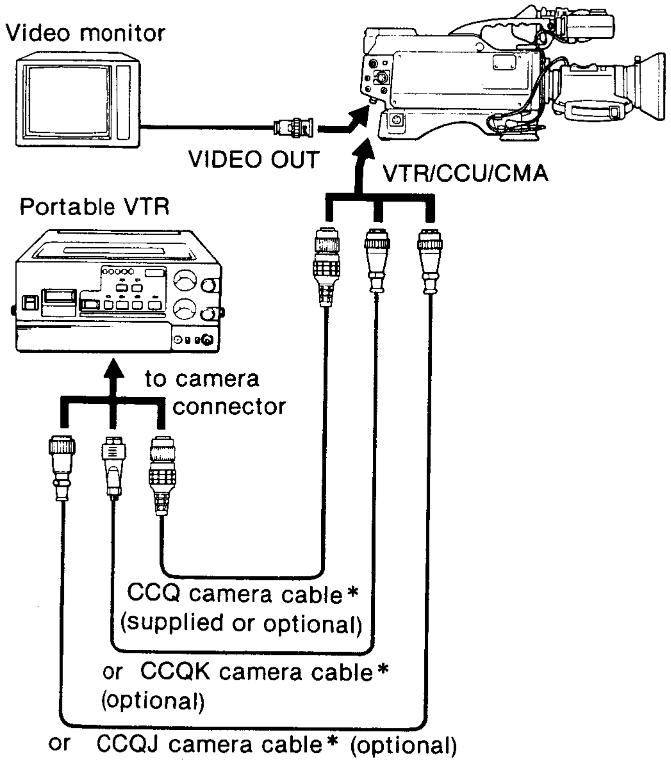

CMA-8/8CE
camera adaptor
DXC-3000/3000P
to an AC outlet
CAMERA/CCU
VTR/CCU/CMA
CCQ camera cable
(supplied or optional)

CONNECTIONS

Before making connections, make sure that the power switches of the camera and other equipment are turned off.

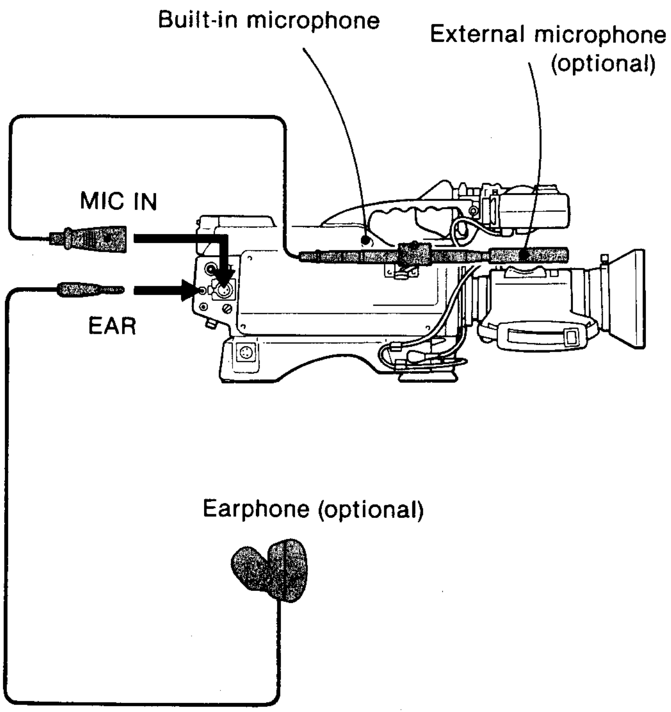
CONNECTION WITH A PORTABLE VTR

When monitoring
the picture using
a video monitor

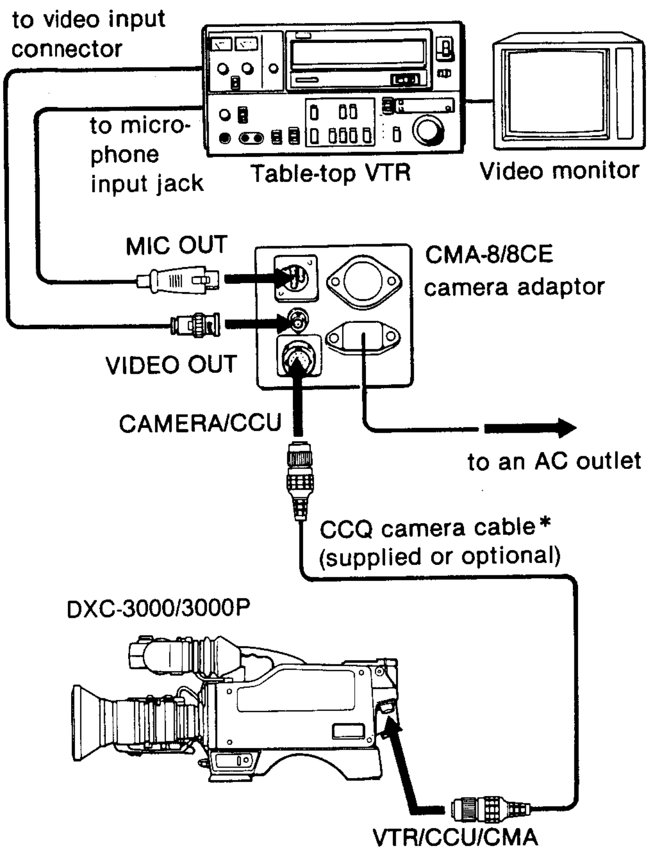

DXC-3000/3000P
Video monitor
VIDEO OUT
VTR/CCU/CMA
Portable VTR
to camera
connector
CCQ camera cable*
(supplied or optional)
or CCQK camera cable*
(optional)
or CCQJ camera cable* (optional)

*The camera cable can be extended up to 10 meters (33 feet) using a CCQ camera cable.

Connection for simultaneous sound recording
To avoid recording noise made while handling the camera, connect an external microphone to the MIC IN connector. The built-in microphone will be automatically shut off.

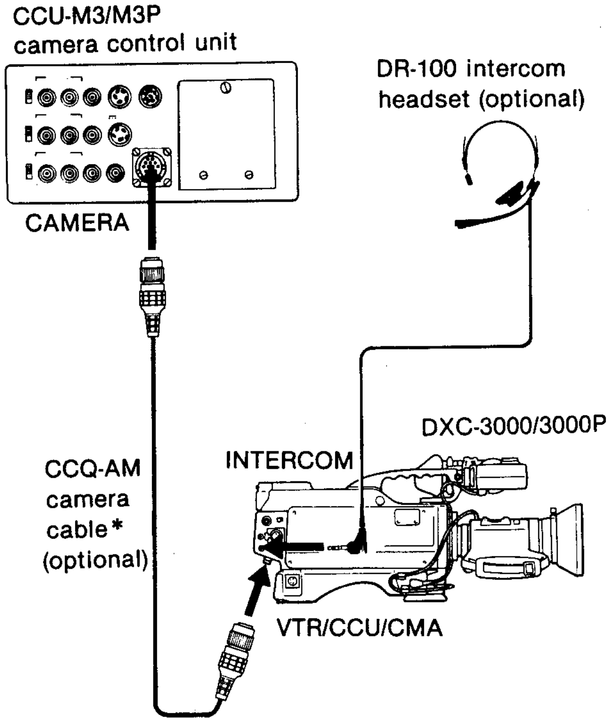

Built-in microphone
External microphone
(optional)
MIC IN
EAR
Earphone (optional)

CONNECTION WITH A TABLE-TOP VTR


to video input connector
to micro-phone input jack
Table-top VTR
Video monitor
MIC OUT
CMA-8/8CE camera adaptor
VIDEO OUT
CAMERA/CCU
to an AC outlet
CCQ camera cable*
(supplied or optional)
DXC-3000/3000P
VTR/CCU/CMA

*The camera cable can be extended up to 30 meters (99 feet) using a CCQ camera cable.

CONNECTION WITH THE CCU-M3/M3P CAMERA CONTROL UNIT


CCU-M3/M3P camera control unit
DR-100 intercom headset (optional)
CAMERA
DXC-3000/3000P
INTERCOM
CCQ-AM camera cable* (optional)
VTR/CCU/CMA

*The camera cable can be extended up to 100 meters (330 feet) using a CCQ-AM camera cable.

Notes on operation with the CCU-M3/M3P

- When the camera is connected to the CCU-M3/M3P camera control unit, set the selector and the switch as follows:
  - — VTR selector: 1
  - — BARS/WB switch: AUTO
- When the camera is connected to the CCU, the following switches will not operate: GAIN selector, BARS/WB selector, H PHASE control, SC PHASE control and SC phase selector.
- If the W/B BALANCE selector of the CCU is set to PRESET, this setting of the CCU has priority over the setting of the AUTO W/B BALANCE switch of the camera to WHT. If the W/B BALANCE selector of the CCU is set to MANUAL or AUTO, automatic white balance adjustment will be performed when the AUTO W/B BALANCE switch of the camera is set to WHT. Automatic black balance adjustment is performed by setting the AUTO W/B BALANCE switch of the camera to BLK, irrespective of the position of the W/B BALANCE selector of the CCU.
- The MIC IN connector of the camera cannot be used as an external microphone input. Connect the microphone directly to or through a mixing console, etc., to the VTR.

OPERATING CONDITIONS AND FUNCTIONS OF THE CONNECTED VTR

VTR selector	**Microphone level**	**Connected VTR**	**Remote control of VTR start/stop**	**REC indicator**		**BATT alarm indication**	**Audio monitor** (on the camera)	**Picture shown on the viewfinder**		**Cable for connection** n: cable length	**Power supply from VTR to camera** (See note 1.)	**AC power adaptor for VTR**
				REC indication	VTR alarm			During recording	During playback			
1	-60 dB (See note 4.)	VO-6800 (NTSC) VO-6800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	CMA-8 (NTSC) CMA-8CE (PAL)
		VO-4800 (NTSC) VO-4800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-340B (NTSC) AC-340CE (PAL)
		BVU-50 (NTSC) BVU-50P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	No	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		BVU-110 (NTSC) BVU-110P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		SLO-340 (NTSC)	Yes	Yes	No	No	Yes (See note 2.)	Yes Camera (See note 3.)	Yes VTR	CCQJ-2	Yes	
2	-20 dB	SL-2000 (NTSC) SL-F1E (PAL)	Yes	Yes	Yes	No	Yes	Yes Camera	Yes VTR	CCQK-2	No	AC-220 (NTSC) AC-F1E (PAL)
3	-20 dB	HR-C3 (JVC, NTSC) HR-2200 (JVC, PAL)	Yes	Yes	No	No	Yes	Yes Camera	Yes VTR	CCQJ-2	No	
4	-20 dB	PV-5000 (Panasonic, NTSC) NV-9400 (Panasonic, PAL)	Yes	Yes	No	No	No	Yes Camera	Yes VTR	CCQJ-2	No	

Notes

1. For VTRs with "No" in the column "Power Supply from VTR to Camera", the power supply from the VTR is insufficient to operate a camera. Therefore, the independent power source must be provided for the camera. If the camera is operated without being powered independently, heat will build up in the VTR or AC power adaptor, and the protective circuit will activate. Consequently, the VTR or AC power adaptor will not operate properly.

2. The audio can be monitored when the NP-1 built into the camera is used.

3. The VTR picture is monitored in the viewfinder when the NP-1 built into the camera is used.

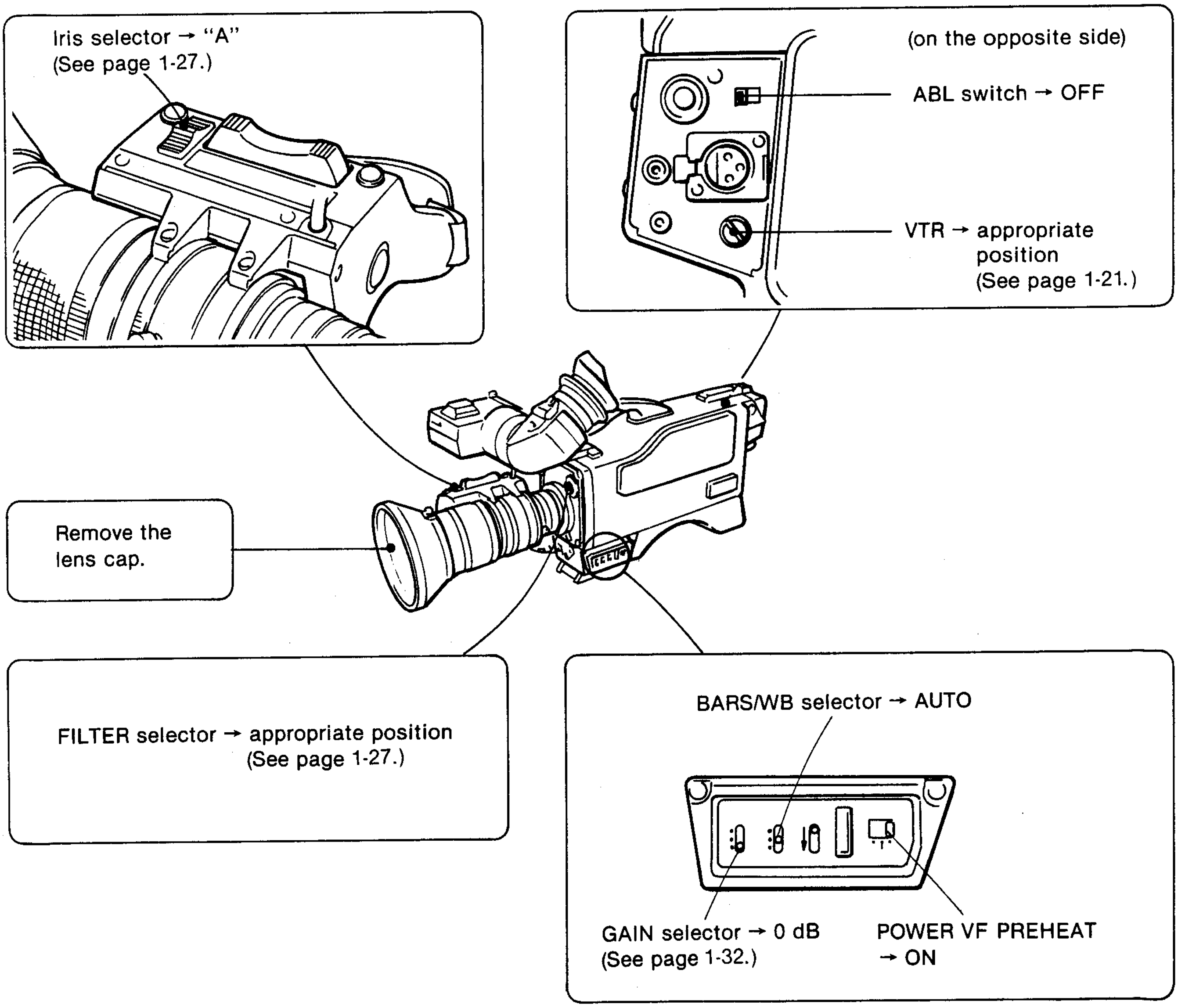
4. When the VO-6800/6800PS portable VTR is connected to the camera, the VTR's -20 dB/-60dB camera microphone input level selector is set to -60 dB.

If the operating conditions of the VTR are different from those shown above, the VTR might not operate normally. If you use a VTR other than those shown above, for which the VTR selector must be set to "3" or "4, check the signal levels and other operating conditions.

ADJUSTMENTS

PREPARATION

Check to be sure that the connections are made correctly, and set the switches as shown.



Iris selector → "A"
(See page 1-27.)

(on the opposite side)

ABL switch → OFF

VTR → appropriate position
(See page 1-21.)

Remove the lens cap.

FILTER selector → appropriate position
(See page 1-27.)

BARS/WB selector → AUTO

GAIN selector → 0 dB
(See page 1-32.)

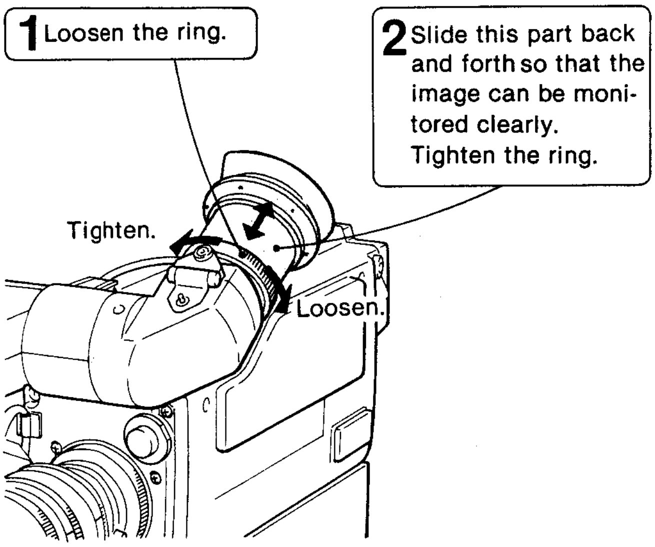
POWER VF PREHEAT → ON

Point the camera at the object. While zooming in or out, turn the focus ring to focus the picture.

VIEWFINDER ADJUSTMENT

After adjusting the viewfinder and the eye cup, make the following adjustment so that the viewfinder screen can be seen comfortably.

Diopter adjustment (adjustable range: from −1 D to −3 D)
Since each operator's eyesight varies, it is necessary to adjust the diopter each time the viewfinder is used by a new operator.
Adjust the diopter after focusing as follows.


1 Loosen the ring.
2 Slide this part back and forth so that the image can be monitored clearly. Tighten the ring.
Tighten.
Loosen.

Viewfinder's contrast and brightness adjustments

1. Set the BARS/WB selector to BARS.
2. Adjust the contrast and brightness with the CONTR and BRIGHT controls, referring to the color bar signals on the viewfinder screen.
3. Set the BARS/WB selector to AUTO after adjustment.

Note
The CONTR and BRIGHT controls do not affect the output signals of the camera.

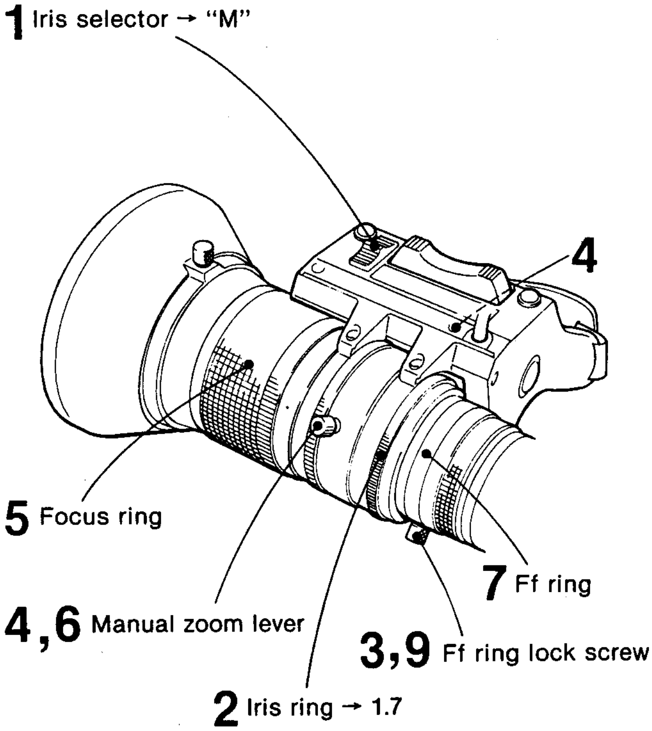
VIDEO MONITOR ADJUSTMENT

When a color video monitor is being used to monitor a picture, adjust the color of the monitor as follows.

1. Set the BARS/WB selector to BARS.
2. Adjust the color and hue controls on the monitor while viewing the color bars on the monitor screen.
3. Set the BARS/WB selector to AUTO.

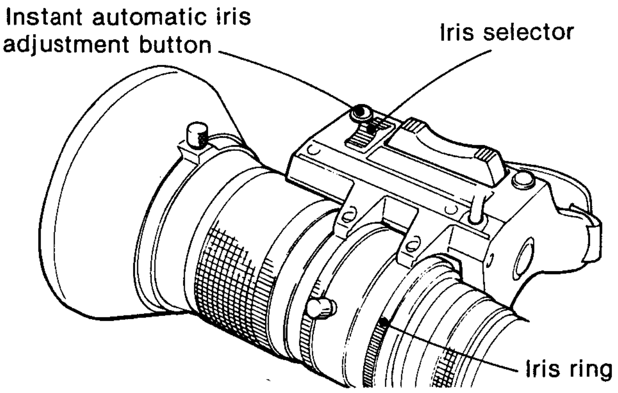
FLANGE FOCAL LENGTH ADJUSTMENT

The proper flange focal length adjustment ensures that the object is in focus both at the wide-angle position and at the telephoto position when zooming.



1. Set the iris selector to "M".
2. Set the iris ring to "1.7".
   Position an appropriate object and illuminate it so that the proper video level is obtained when the iris ring is set to "1.7".
3. Loosen the Ff ring lock screw.
4. Set the ZOOM selector to M and turn the manual zoom lever to the "120" telephoto position.
5. Turn the focus ring until an object at about three meters (10 feet) from the lens is in focus. An object with fine detail is desirable.
6. Turn the manual zoom lever to the "10" wide-angle position.
7. Turn the Ff ring until the same object is in focus.
   Be sure not to turn the focus ring.
8. Repeat Steps **4** through **7** until the object is in focus both at the telephoto position and at the wide-angle position.
9. Tighten the Ff ring lock screw.
   Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.

IRIS ADJUSTMENT


Instant automatic iris adjustment button
Iris selector
Iris ring

Automatic adjustment
Set the iris selector to "A", and the iris will be automatically adjusted to the brightness of the object. Normally use the "A" position.

Manual adjustment
Set the iris selector to "M", and turn the iris ring. Manual adjustment may be effective when recording an object against a bright sky or a scene with high contrast.

Temporary automatic adjustment
While the instant automatic iris adjustment button is kept depressed during manual iris adjustment, the iris is automatically adjusted. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

FILTER SELECTION

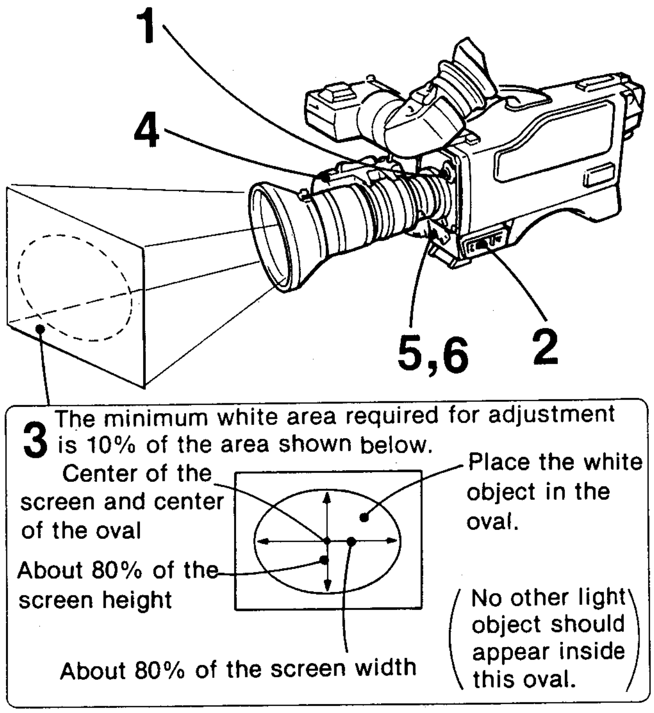
The color temperature changes according to lighting conditions. To compensate this, use the color temperature conversion filter indicated in the table below.

Filter number	Lighting conditions
1	Iodine lamp, sunrise, sunset
2	Bright outdoor
3	Cloudy, rainy

If the selected filter is not suitable for the lighting conditions, a warning such as ":LOW LIGHT" will be shown on the viewfinder screen. For details on the warning, refer to "Warning Indicators and Character Display" on page 1-35.

WHITE BALANCE AND BLACK BALANCE ADJUSTMENTS

Proceed with the following white balance and black balance adjustments in order to obtain picture clarity and lifelike color reproduction.


1
4
5,6
2
3
The minimum white area required for adjustment is 10% of the area shown below.
Center of the screen and center of the oval
Place the white object in the oval.
About 80% of the screen height
No other light object should appear inside this oval.
About 80% of the screen width

1 Set the FILTER selector properly according to the lighting conditions.
2 Set the BARS/WB selector to AUTO.
3 Zoom up on a white object using the same lighting conditions as those under which the recording will be made.
4 Set the lens iris selector to "A".
5 Press the AUTO W/B BALANCE switch toward BLK, and release it.
"BLK.:OP" will appear on the viewfinder screen during the automatic black balance adjustment. After the adjustment is completed, "BLK.:OK" will be displayed for a few seconds.
6 Press the AUTO W/B BALANCE switch toward WHT, and release it.
"WHT.:OP" will appear on the screen during the automatic white balance adjustment. After the adjustment is completed "WHT.:OK" will be displayed for a few seconds.

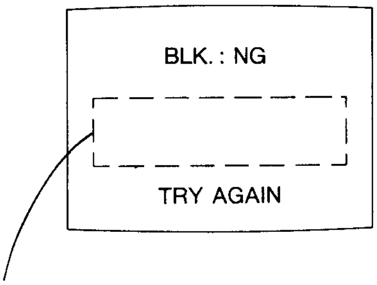
Note

Readjustments of the white balance and black balance are necessary under the following conditions.

White balance:
- Each time the lighting conditions are changed
- If the ":MEMORY NG" is displayed on the viewfinder screen, indicating the previous white balance value is no longer retained in the memory.

Black balance: If the ":MEMORY NG" is displayed on the viewfinder screen, indicating that the previous black balance value is no longer retained in the memory.

If the automatic black balance adjustment function does not work normally,
the following indications will appear on the viewfinder screen.



Cause

:LENS CLOSE?

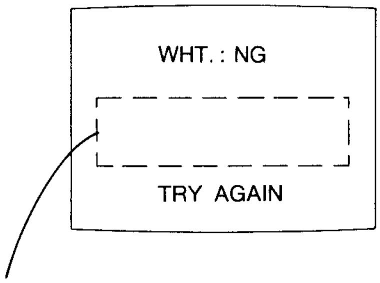
Cause: The lens iris did not close automatically during black balance adjustment.
Check: •The lens function
•The lens connection

:CB SW
MISS TOUCH?

Cause: The BARS/WB selector is set to BARS during the black balance adjustment.
Check: The BARS/WB selector. Is it set to AUTO?

Try to make the black balance adjustment again after eliminating the problems described above.

If the automatic white balance adjustment function does not work normally,
the following indications will appear on the viewfinder screen.



Cause

:C.TEMP.LOW
CHG.FILTER

or

:C.TEMP.HI
CHG.FILTER

Cause: An inappropriate color temperature conversion filter was used.
Check: The filter type

:????

Cause:
- A white object was not used to make the adjustment.
- The adjustment was made with a very bright object inside the minimum white area required for white balance adjustment.

Check: The white pattern or object, and refer to Step 3 of the "White Balance and Black Balance Adjustments".

:LOW LIGHT

Cause: The light is insufficient.
Check:
- The lighting. If necessary, increase it.
- The video output level. If necessary, raise it using the GAIN selector.

Try to make the white balance adjustment again after eliminating the problems described above.

Memorized white balance and black balance values
In the DXC-3000/3000P, a built-in memory stores the adjusted white balance and black balance values. The memorized values will be retained for about 12 hours after the power is turned off without any further power supply to the camera or until the adjustments are made once again. If the memorized values are erased, ":MEMORY NG" will be displayed on the viewfinder screen next time the camera power is turned on. If this happens, adjust the white balance and black balance.

To start recording immediately without white balance adjustment
Set the BARS/WB selector to 3,200° K to obtain the white balance value preset at the factory.

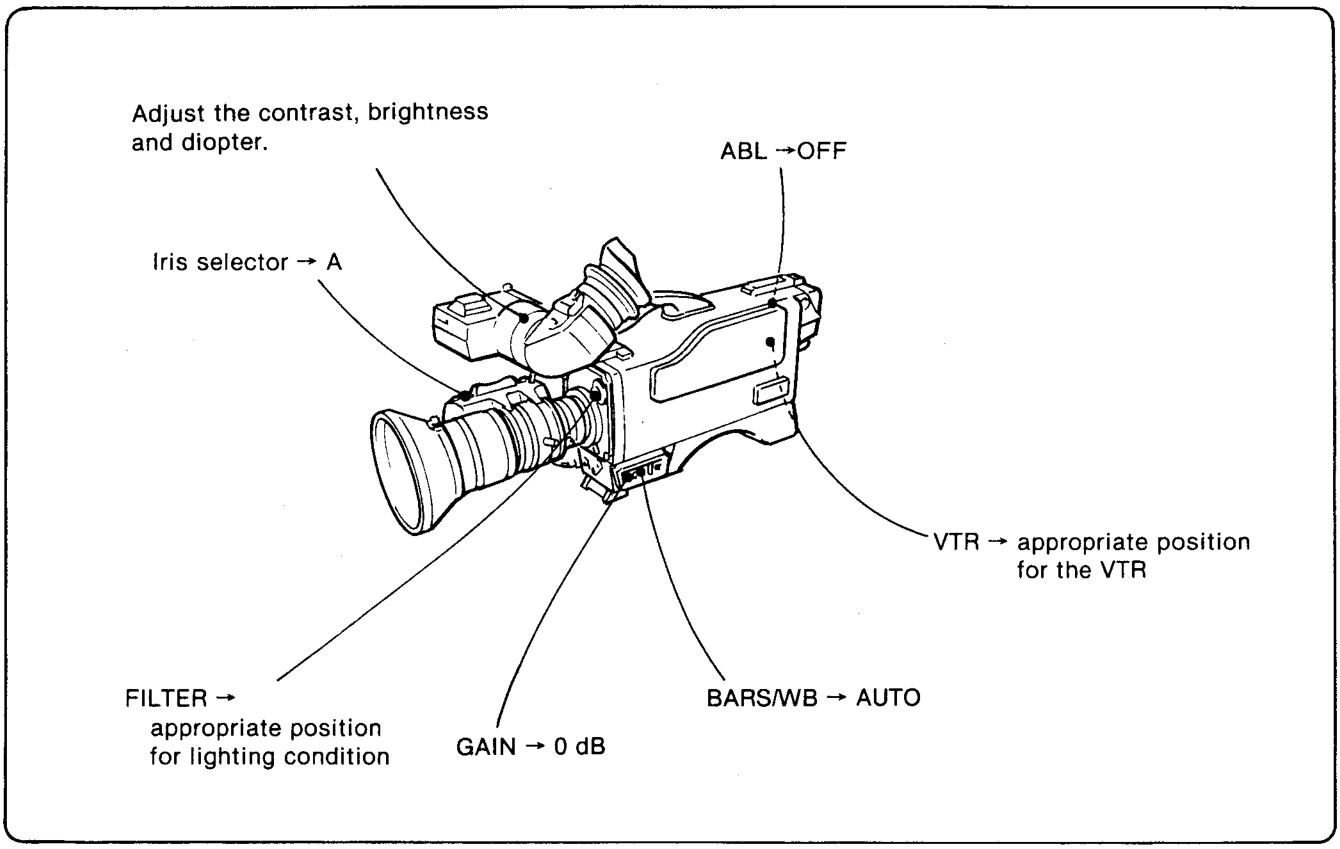
BLACK SETTING

When the AUTO W/B BALANCE switch is set to BLK, the black level drift (with respect to the reference black level) of each channel (R, G, B) is automatically adjusted, together with the black balance.

OPERATION

PREPARATION

Before operation, set the switches as follows.


Adjust the contrast, brightness and diopter.
ABL →OFF
Iris selector → A
VTR → appropriate position for the VTR
FILTER → appropriate position for lighting condition
GAIN → 0 dB
BARS/WB → AUTO

RECORDING WITH A PORTABLE VTR (connected with a CCQ, CCQK or CCQJ camera cable)

1. Turn the camera and the connected equipment on.
2. Adjust the black balance and white balance. For details, refer to "White Balance and Black Balance Adjustments" on page 1-27.
3. Point the camera at an object and adjust the lens.
   —Iris (Refer to page 1-27.)
   —Zoom (Refer to page 1-32.)
   —Focus
4. To start recording, press the VTR START/RETURN VIDEO button on the camera or the VTR button on the lens. The REC/TALLY indicator in the viewfinder will light during recording.

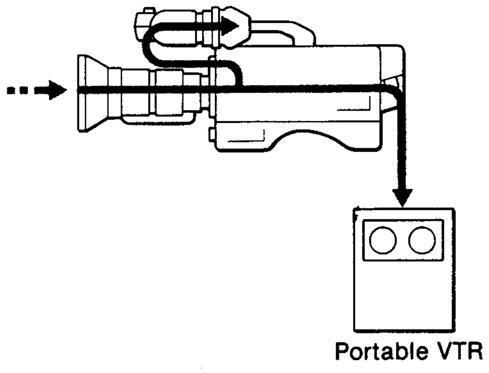
   To stop recording, press the VTR START/RETURN VIDEO button or the VTR button again.

Note
For a brief period after the camera has been turned on, the BATT indicator of the viewfinder may light and random characters may be displayed on the viewfinder screen. (This is not a malfunction.)

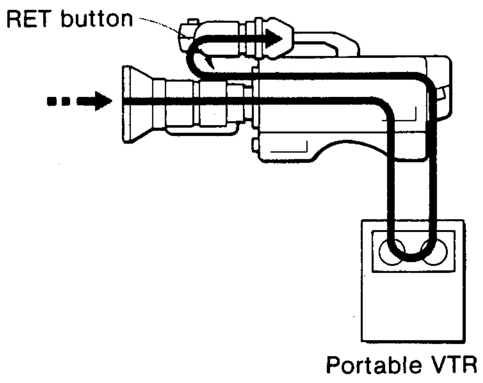
Monitoring the sound
The sound can be monitored during both recording and playback through an earphone connected to the camera's EAR jack.

Monitoring the picture
The following three types of pictures can be seen on the viewfinder screen when the camera and the VTR are connected with the CCQ camera cable. (For details on the pictures which can be shown on the viewfinder screen, refer to page 1-21.)

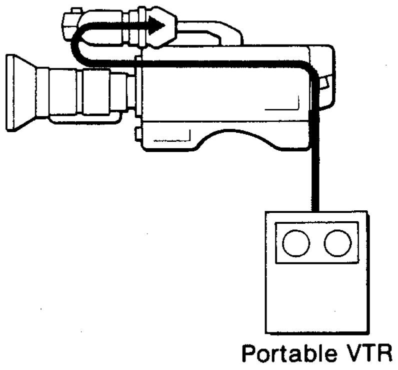
Picture picked up by the camera (during recording)



E-E mode picture from the VTR (return video) when the RET button on the lens is pressed (during recording)



Playback picture (during playback)

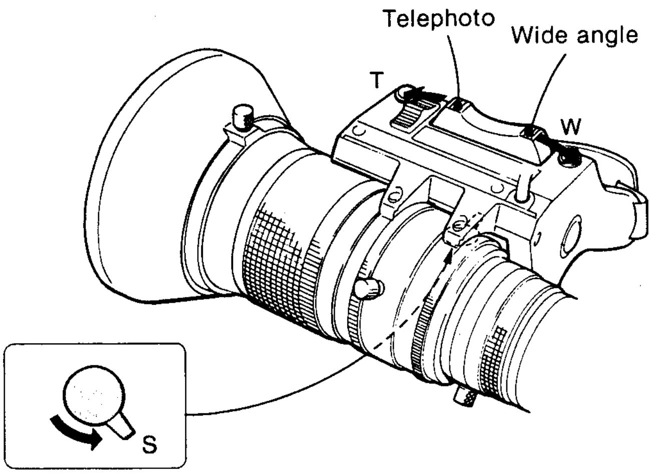


Note
While the playback picture from the VTR is displayed on the viewfinder screen, a part of the camera's video signals, such as a sync signal, may be mixed with the playback picture so that streaks of noise roll vertically or horizontally.

ZOOMING

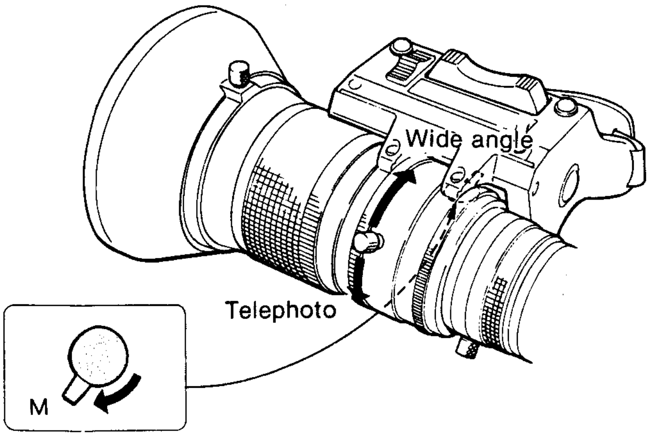
Motorized zooming

You can zoom smoothly. Zooming is faster when the motorized zoom switch is pressed down all the way and becomes slower when it is pressed down only slightly.



Manual zooming

Manual zooming allows more precise control of the zooming speed.



Tips on zooming

Zoom in: From wide angle to telephoto. Used to bring a distant object up close.

Zoom out: From telephoto to wide angle. Used to move back from an object and gradually reveal the object's surroundings.

Following: Zoom up on the subject and follow its movement with the camera. This zoom effect is used, for example, to emphasize the speed of the subject by making the background rush past in a blur.

Correct focusing: If the focus is right in the telephoto position, it will be right when you zoom back to wide angle.

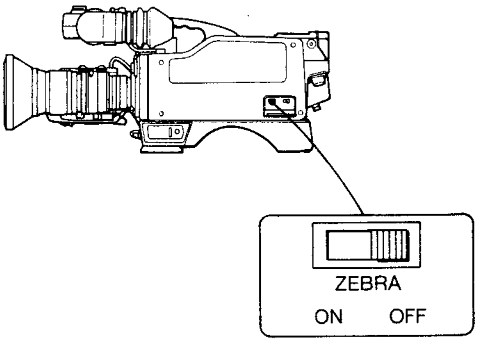
For a more stable picture, we recommend placing the camera on a tripod when zooming. If you zoom with the camera on your shoulder, stand as steady as possible.

OUTPUT LEVEL ADJUSTMENT

If a clear picture cannot be obtained because of insufficient lighting, set the GAIN selector to the appropriate position. Normally set the GAIN selector to "0".
The video output level can be raised by 9 dB by setting the GAIN selector to "9" and by 18 dB by setting the selector to "18".

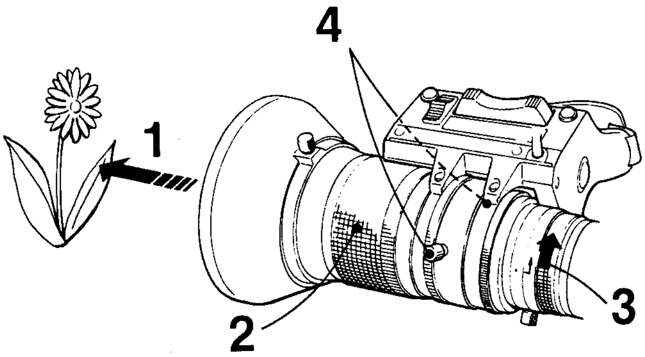
CHECKING THE VIDEO LEVEL

When the ZEBRA switch is set to ON, a zebra pattern will appear on the part of the viewfinder screen when the video output level of the picture is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). You can use this zebra pattern as a reference when adjusting the iris manually. Adjust the iris so that the zebra pattern appears over the subject being shot (for example, the face of a back-lit person).
If it is not necessary to use the zebra pattern to adjust the iris, set the ZEBRA switch to OFF.



CLOSE-UPS — Shooting small or nearby objects

The close-up or macro function lets you zoom in flowers, insects and even photographs. The minimum distance from the lens to the object is 80 mm in the "10" wide-angle zoom position.



1 Adjust the distance between the lens and the object to get the desired image size.
2 Set the focus ring to the "one meter (1 m)" setting.
3 Turn the MACRO ring in the direction of the "MACRO" arrow until it stops.
4 Focus by turning the manual zoom lever with the zoom selector set to "M".

When the close-ups operation is completed, return the MACRO ring to its original position.

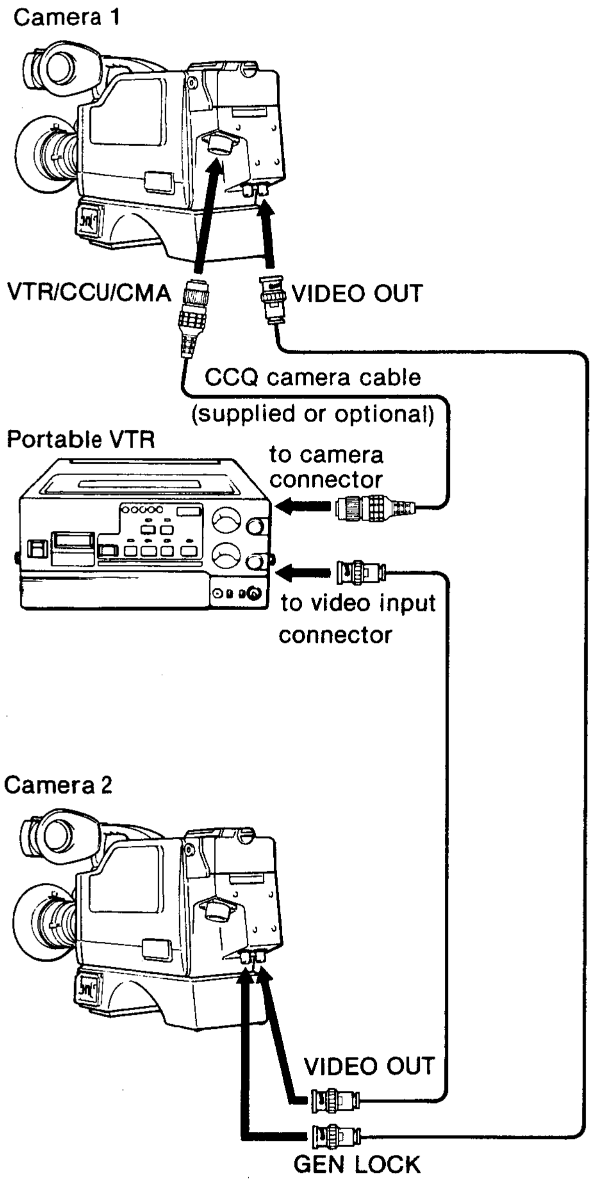
Note

- If you wish to reduce the object's size on the screen, first adjust the focus following Steps 1 through 4 above, then turn the MACRO ring slightly toward its original position and adjust the focus with the manual zoom lever again.
- If the focus ring is set to "∞" while the MACRO ring is turned to "MACRO", the focus can be continually adjusted from the close-ups position to "∞" with the manual zoom lever.

USE OF THE GEN LOCK CONNECTOR

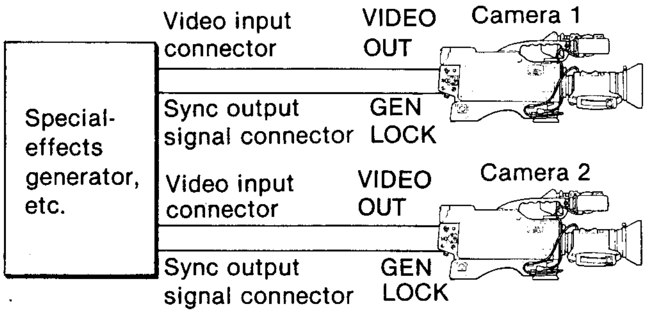
When the BS or VBS signal is connected to the GEN LOCK connector, the camera synchronizes with the connected signal. Use this connector when two or more cameras are used without a CCU.

Example 1


Camera 1
VTR/CCU/CMA
VIDEO OUT
CCQ camera cable
(supplied or optional)
Portable VTR
to camera
connector
to video input
connector
Camera 2
VIDEO OUT
GEN LOCK

Camera 2 is synchronized with Camera 1.

Example 2


Video input
connector
VIDEO
OUT
Camera 1
Special-
effects
generator,
etc.
Sync output
signal connector
GEN
LOCK
Video input
connector
VIDEO
OUT
Camera 2
Sync output
signal connector
GEN
LOCK

Camera 1 and Camera 2 are synchronized with a special-effects generator.

Adjustment of the picture tone for two or more cameras
When two or more cameras are used simultaneously in connection with a special-effects generator, etc., supply each camera with the same reference signal, and adjust each camera to obtain the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedures described below.

Subcarrier phase adjustment
Adjust the subcarrier phase roughly with the SC phase selector, and make fine adjustment using the SC PHASE control. Use a vectorscope to make the adjustment easily.

Horizontal phase adjustment
Adjust the horizontal phase with the H PHASE control. Use a waveform monitor or an oscilloscope to make the adjustment easily.

RECORDING WITH A TABLE-TOP VTR

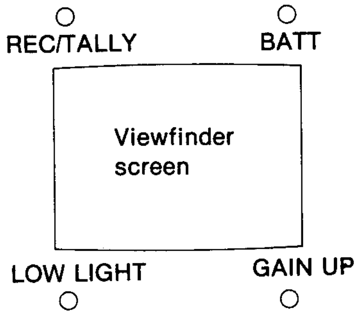
The operating procedure is almost the same as when recording with a portable VTR except for the following:

- The VTR START/RETURN VIDEO button on the camera and the VTR button on the lens do not function. Recording must be started and stopped with the function buttons on the VTR.
- The REC/TALLY indicator in the viewfinder does not function.
- The E-E mode picture (return video) and the playback picture cannot be monitored on the viewfinder screen.

WARNING INDICATORS AND CHARACTER DISPLAY

WARNING INDICATORS ON THE VIEWFINDER

The following indications show the status of the connected camera, VTR or CCU.
(Some VTRs might have no indication function by blinking or by lighting up.)



Indicator	When operant	Blinks	Lights up
REC/ TALLY	While recording, using a VTR connected with a CCQ cable	Until the VTR is put on the standby mode	During recording
	During use of a VTR (equipped with a warning system), which is connected with a CCQ or a CC-QK cable	While the VTR is malfunctioning	—
	During use of the CCU-M3/M3P	—	When a tally signal is transmitted from a video switcher, etc.
BATT	• When a camera powered by a built-in NP-1 is used	—	The battery power is weak.
	• When a VTR is connected to the camera	The battery power is weak.	When a connected equipment is continuously operated after blinking
	• When a CCU is connected to the camera *		
LOW LIGHT	Any time	—	When the lighting is insufficient
GAIN UP	Any time	—	When the GAIN selector is set to 9 dB or 18 dB

* The indicator's blinking speed denotes the following:
Slow: The battery is weak.
Fast: The CCU's switches and controls are being used.

WARNING INDICATIONS BY THE CHARACTER DISPLAY

The following indications appear on the viewfinder screen.

:LOW LIGHT

Meaning: The lighting is insufficient.
Check: — The lighting. Increase it, if necessary.
— The iris. Open the iris manually or activate the auto iris function.
— The filter. Select an appropriate filter.
— The GAIN selector. Set it to 9 dB or 18 dB.

It is possible to switch the "LOW LIGHT" indication on or off.
On: Press the UP/ON button when the character display is on the "Operational Status of the Camera" mode.
Off: Press the DOWN/OFF button when the character display is on the "Operational Status of the Camera" mode. The indication does not appear on the viewfinder screen even if the lighting is insufficient.

:MEMORY NG

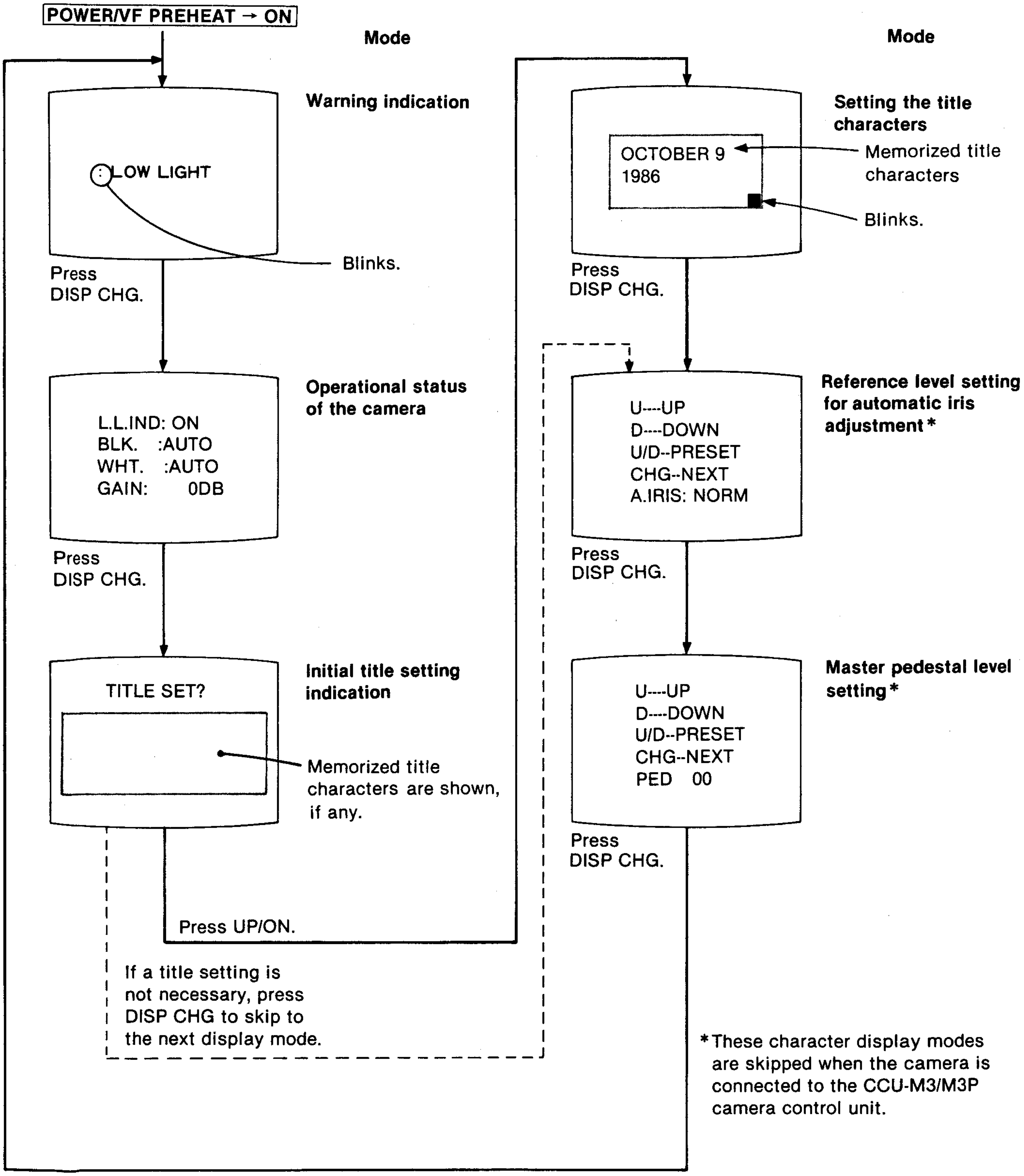
Meaning: The white balance and black balance adjusted values are no longer retained in the memory.
Check: The white balance and black balance values. Reset them.

:BATT :EMPTY?

Meaning: The input voltage to the camera is less than about 11.0 V.
Check: The battery. Replace it with a fully charged one.
If you continue recording with a weak battery, the quality of the recording will deteriorate.

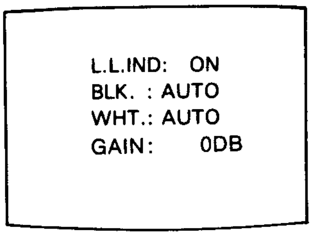
CHARACTER DISPLAY ON THE VIEWFINDER

The following chart shows the character display mode sequence each time the DISP CHG is pressed.


POWER/VF PREHEAT → ON
Mode
Warning indication
LOW LIGHT
Blinks.
Press DISP CHG.
Operational status of the camera
L.L.IND: ON
BLK. :AUTO
WHT. :AUTO
GAIN: 0DB
Press DISP CHG.
Initial title setting indication
TITLE SET?
Memorized title characters are shown, if any.
Press UP/ON.
If a title setting is not necessary, press DISP CHG to skip to the next display mode.
Mode
Setting the title characters
OCTOBER 9
1986
Memorized title characters
Blinks.
Press DISP CHG.
Reference level setting for automatic iris adjustment*
U----UP
D----DOWN
U/D--PRESET
CHG--NEXT
A.IRIS: NORM
Press DISP CHG.
Master pedestal level setting*
U----UP
D----DOWN
U/D--PRESET
CHG--NEXT
PED 00
Press DISP CHG.

*These character display modes are skipped when the camera is connected to the CCU-M3/M3P camera control unit.

Operational status of the camera


L.L.IND: ON
BLK. : AUTO
WHT.: AUTO
GAIN: 0DB

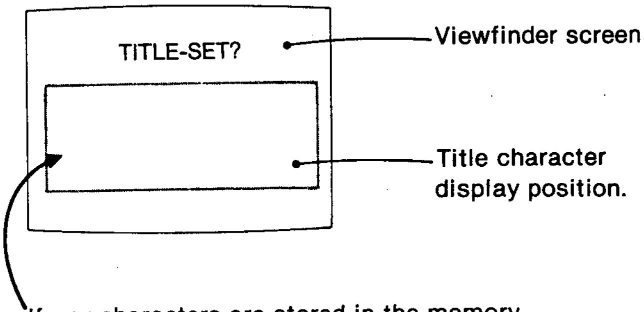
L.L. IND (Setting the "LOW LIGHT" indication)
ON: "LOW LIGHT" is displayed.
OFF: "LOW LIGHT" is not displayed.

BLK. (Black balance adjustment mode)
AUTO: For automatic adjustment
MANUAL: For manual adjustment using the CCU-M3/M3P camera control unit

WHT. (White balance adjustment mode)
AUTO: For automatic adjustment
PRESET: For the factory preset value
MANUAL: For manual adjustment using the CCU-M3/M3P

GAIN (Setting the video output level)
0 dB, 9 dB or 18 dB.

Initial title setting indication

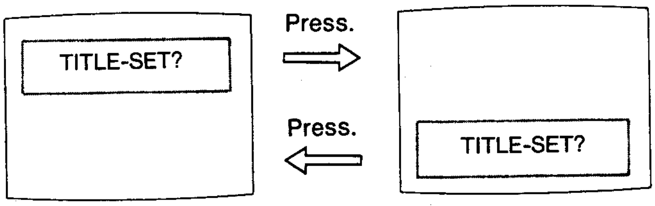

TITLE-SET?
Viewfinder screen
Title character display position.

If any characters are stored in the memory, they are displayed here.

Perform the following procedures if necessary.

To clear all the memorized title characters:
Press the UP/ON button and the DOWN/OFF buttons simultaneously.

To change the character display position:
Press the DOWN/OFF button.


TITLE-SET?
Press.
Press.
TITLE-SET?

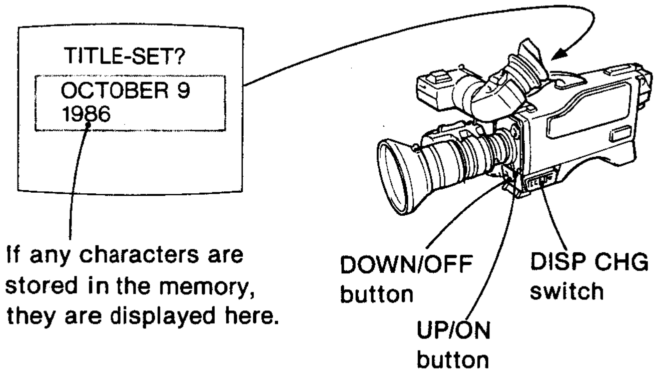
Note
When the camera is used with a VO-6800/6800PS portable VTR, use only the lower character display area, because the VTR tape remaining time is shown in the upper character display area.

Setting the title characters

This camera has a superimposition function which allows the simultaneous showing of the picture shot by the camera and the characters by the built-in character generator on the same screen. If a recording VTR or a monitor is connected to the camera, the superimposed picture can be recorded on the VTR or monitored on the monitor screen. Use the DISP CHG switch, UP/ON button, and DOWN/OFF button to set title characters.

Preparation

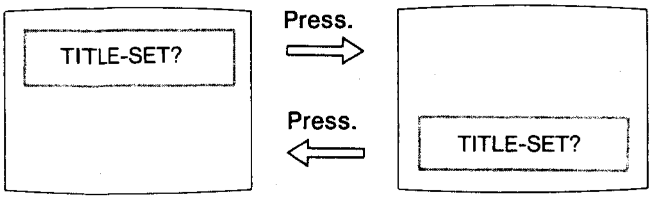
1 Press the DISP CHG switch until the following indication appears on the viewfinder screen.


TITLE-SET?
OCTOBER 9
1986
If any characters are stored in the memory, they are displayed here.
DOWN/OFF button
DISP CHG switch
UP/ON button

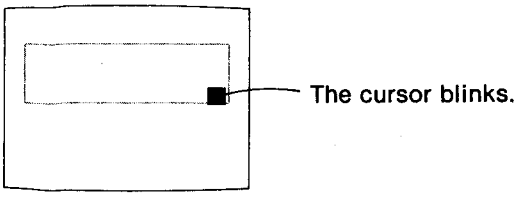
Perform the following procedures if necessary when the indications above are shown on the viewfinder screen.

To clear all the memorized title characters:
Press the UP/ON button and DOWN/OFF button simultaneously.

To change the position of the title characters:
Press the DOWN/OFF button.

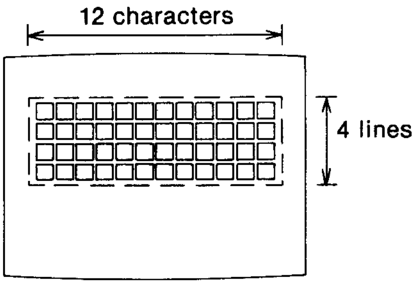

TITLE-SET?
Press.
Press.
TITLE-SET?

2 Press the UP/ON button to set title characters.


The cursor blinks.

Setting procedures

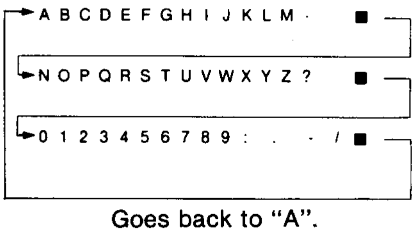
Set title characters one by one using the UP/ON button and DOWN/OFF button. Up to 12 characters can be displayed on one line, and up to 4 lines can be displayed.


12 characters
4 lines

Selection of letters

Repeat pressing the UP/ON button until the desired character appears inside the cursor.
Every time the UP/ON button is pressed, the characters change in the following order.

Order of scanning


A B C D E F G H I J K L M · ■
N O P Q R S T U V W X Y Z ? ■
0 1 2 3 4 5 6 7 8 9 : . - / ■
Goes back to "A".

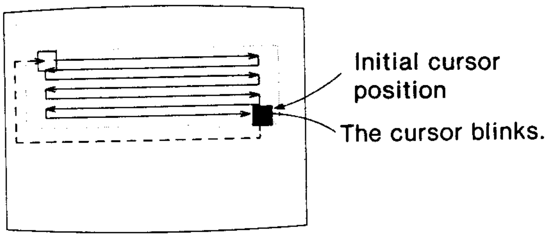
Punctuation display
Point: "·"
Space: "■"
Question mark: "?"
Colon: ":"
Period: "."
Hyphen: "–"
Slash: "/"

To change the characters in reverse alphabetical order:
Press the DOWN/OFF button with the UP/ON button pressed.

Moving the cursor

The cursor can be moved to the desired position by repeating the DOWN/OFF button. After the desired character appears, press the DOWN/OFF button, and the cursor moves one space to the right.

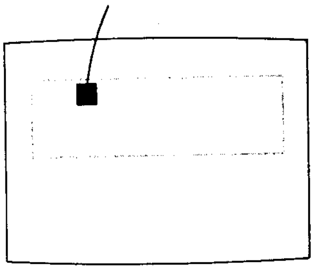
Movement of the cursor



Initial cursor position

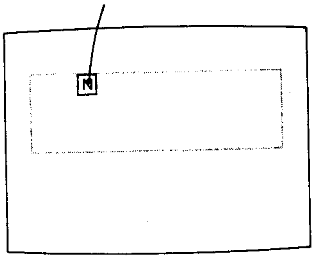
The cursor blinks.

1 Move the cursor to the desired position by pressing the DOWN/OFF button.



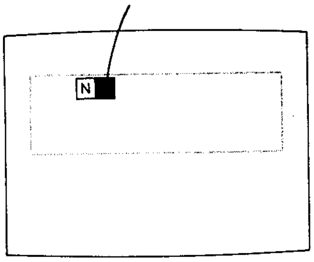
The cursor blinks.

2 Select a character by pressing the UP/ON button.



The selected character blinks.

3 Press the DOWN/OFF button to set the selected character, and the cursor moves one space to the right.



The cursor blinks.

Set the title characters by repeating Step 1 through 3 shown above.

Notes

- The AUTO W/B BALANCE switch can also be used for character setting instead of the UP/ON and DOWN/OFF buttons. To set the character position, set the switch to BLK (same function as the DOWN/OFF button), and to set the character, set the switch to WHT (same function as the UP/ON button).
- To replace a character which has been set with a new one
  Return the cursor to the character's position, select the desired character with the UP/ON button, and press the DOWN/OFF button.
  The characters must be changed one by one following procedure above.

Memory of the title characters

The characters and their displayed positions are stored in the memory (about 12 hours) after the character display mode is cancelled or after the power is turned off.

Setting the reference level for automatic iris adjustment

Buttons		Settings
UP/ON	U ---- UP	Raise the level.
DOWN/OFF	D ---- DOWN	Lower the level.
UP/ON & DOWN/OFF	U/D -- PRESET	Maintain factory preset level.
DISP/CHG	CHG -- NEXT	Change to the next mode.
	A.IRIS: NORM	

The current value

Purpose
To adjust the video level of a back-lit subject so that it is not too dark.

Adjustable range
From about −1.0 to +1.0 F stop in about 0.5 increments

Operation
To raise the level: Press the UP/ON button.
To lower the level: Press the DOWN/OFF button.
To reset to the normal level: Press the UP/ON and DOWN/OFF buttons simultaneously.

Maintenance of the adjusted value
The adjusted iris value will be retained in the memory until the power is turned off. The next time the camera power is turned on, the iris value will return to the factory preset level.

Setting the master pedestal level

Buttons		Settings
UP/ON	U ---- UP	Raise the level.
DOWN/OFF	D ---- DOWN	Lower the level.
UP/ON & DOWN/OFF	U/D -- PRESET	Maintain factory preset level.
DISP CHG	CHG -- NEXT	Change to the next mode.
	PED 00	

The current value

Purpose
Adjust to obtain a well contrasted picture while shooting outdoors.

Adjustable range
From about −30% to +31% of the reference level (0.7 V as 100%) in about 1% increments.

Operation
To raise the level: Press the UP/ON button. (If this button is pressed when the master pedestal level is +31%, "MAX" is displayed.)
To lower the level: Press the DOWN/OFF button. (If this button is pressed when the level is −30%, "MIN" is displayed.)
To reset to "00" (factory preset value): Press the UP/ON and the DOWN/OFF buttons simultaneously.

Maintenance of the adjusted value
The master pedestal level is retained in the memory for about 12 hours after the power is turned off.

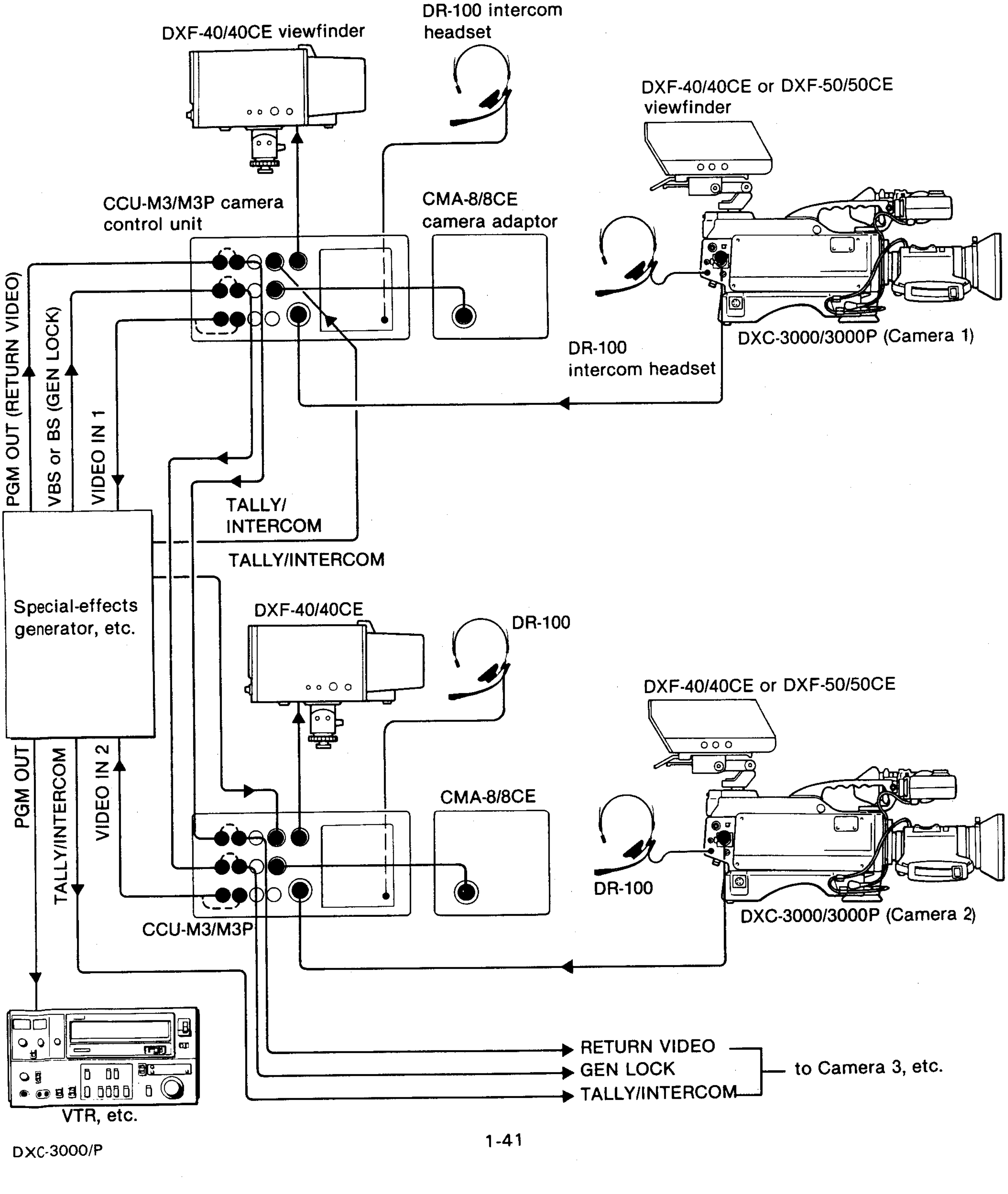
Notes

- If the pedestal level set by the UP/ON and DOWN/OFF buttons is to be monitored on a waveform monitor, set the ABL switch to OFF. If the ABL switch is set to ON, the correct waveform cannot be monitored.
- When a CCU-M3/M3P camera control unit is connected to the camera, the auto iris reference level setting mode and the master pedestal level setting mode cannot be controlled by the camera because the CCU iris and the master pedestal values take priority over the camera settings.
- The CCU master pedestal level setting is stored in the camera's memory for about 12 hours after the CCU is disconnected from the camera.

STUDIO USE

When using more than two cameras simultaneously in a video studio, a special-effects generator, such as the Sony SEG-2000A/2000AP, is necessary for wiping and switching, and a CCU-M3/M3P camera control unit for matching all the camera's picture quality and color.

System example


DXF-40/40CE viewfinder
DR-100 intercom headset
DXF-40/40CE or DXF-50/50CE viewfinder
CCU-M3/M3P camera control unit
CMA-8/8CE camera adaptor
DR-100 intercom headset
DXC-3000/3000P (Camera 1)
PGM OUT (RETURN VIDEO)
VBS or BS (GEN LOCK)
VIDEO IN 1
TALLY/ INTERCOM
TALLY/INTERCOM
Special-effects generator, etc.
DXF-40/40CE
DR-100
DXF-40/40CE or DXF-50/50CE
CMA-8/8CE
DR-100
DXC-3000/3000P (Camera 2)
PGM OUT
TALLY/INTERCOM
VIDEO IN 2
CCU-M3/M3P
RETURN VIDEO
GEN LOCK
TALLY/INTERCOM
to Camera 3, etc.
VTR, etc.

TIPS FOR SHOOTING AND EFFECTIVE CAMERA WORK

RECORDING LIFELIKE COLORS

If the camera is used without correct white balance adjustment, proper color reproduction cannot be obtained. Even in the same location, the color temperature will vary with the time of the day and the lighting conditions (sunlight, shade, ambient reflected light, etc.). Be sure to attach the filter appropriate to the color temperature of the lighting and adjust the white balance when the camera is moved to another location.

LIGHTING

For optimum color recording, we recommend illuminating the object with two iodine lamps (500 watts, 3200°K) at a distance of 4 m (13 feet) to obtain suitable lighting conditions (i.e., an intensity of at least 1,500 lux, 150 footcandles). If the illumination is insufficient, the ":LOW LIGHT" warning will be displayed on the viewfinder screen. If this occurs, the video output level must be raised manually or lighting must be increased.

Lights should be arranged and their intensity set so that the object is illuminated evenly with sufficient brightness. When installing the lighting system, refer to the light distribution curve of the lamp used.

Undesirable shadows may occur when a three-dimensional object is illuminated. The color of the shaded areas may be affected and appear as a different color. To reduce this effect, illuminate the object as uniformly as possible. The use of a light, pale-colored background, such as pale gray, is recommended.

FOCUSING AND ZOOMING

Focusing is always more critical in the telephoto position.

Therefore, if you start by accurately focusing for a telephoto shot, you are sure to be accurately focused when you zoom back to a more wide-angle shot. In the telephoto position, the "depth of focus" is very shallow, so only one point in the scene is likely to be in focus.

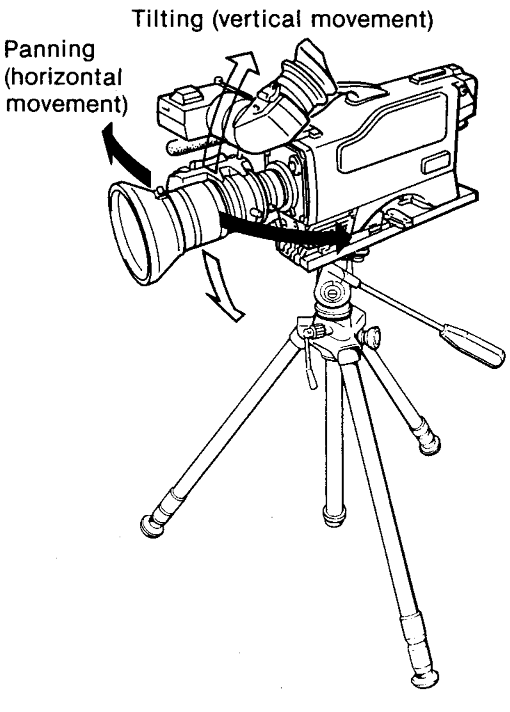
Shooting a distant object means focusing over a wide range, but when shooting something close, you naturally only have to focus over a much narrower range. The narrower the angle of the lens, or in other words the more telephoto it becomes, the more pronounced camera shake will be. If you are taking a telephoto shot, be sure that the camera is held very still.

PANNING AND TILTING

These techniques are used for "sweeping" the camera over landscapes, tall buildings, etc.

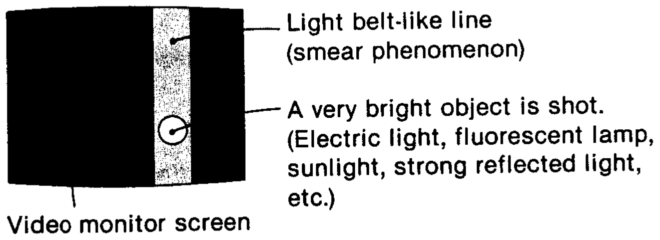
Hold the camera still for a moment just before you start to shoot and just after the shot has finished. Start shooting: turn the camera slowly around to the point where the shot will end. This type of slow horizontal sweep is called "panning".

Tilting occurs when the camera is swept vertically for shots of buildings, trees, and mountains and so on to achieve subtly different effects. If you are shooting a skyscraper and want to emphasize the height, start from the bottom and tilt up. If, on the other hand, you want to dramatize a person emerging from the front entrance, start at the top and tilt down. Tilting is generally more effective if you sweep the camera more quickly than you would when panning. You can either start from the top and work down or start at the bottom and work up.



SPECIAL CHARACTERISTICS OF A CCD

Smear phenomenon
This may appear when a very bright object is shot.


Light belt-like line
(smear phenomenon)
A very bright object is shot.
(Electric light, fluorescent lamp, sunlight, strong reflected light, etc.)
Video monitor screen

Patterned noise
This may appear uniformly over the entire monitor screen when the camera is operated at high temperature.

Wavy picture
This may appear when fine stripes, straight lines, etc., are shot. Their images monitored on the screen look wavy.

Smeareffekt bei
mindestens 10 X
normalpegel

—

Patternnoise = festzugeordnetes
Rauschen der einzelnen
Pixel

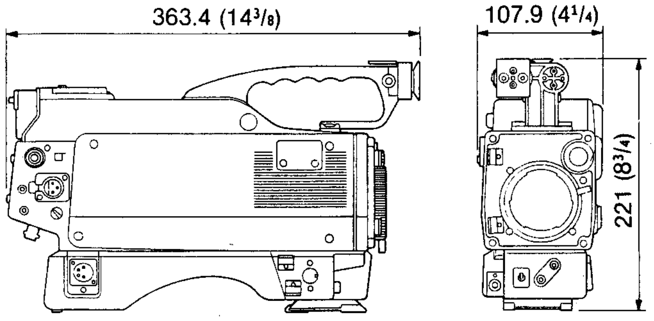
SPECIFICATIONS

Camera (DXC-3000/3000P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 x 492 (h/v) (NTSC) 500 x 582 (h/v) (PAL)
Sensing area	8.8 mm x 6.6 mm (equivalent to a 2/3-inch pickup tube)
Built-in filters	1: 3,200°K 2: 5,600°K + 1/8 ND 3: 5,600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 3000) CCIR standards, PAL color system (for DXC 3000P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	520 lines (center)
Minimum illumination	25 lux with F1.7, + 18 dB
Sensitivity	2,000 lux with F5.6, at 3,200°K (NTSC) 2,000 lux with F5.0, at 3,200°K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	1.0 V(p-p), sync negative, 75 ohms, unbalanced
Signal to noise ratio	56 dB (NTSC) 54 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EAR: mini jack INTERCOM: mini intercom
Power requirements	12 V DC
Power consumption	9 W (for camera only)
Operating temperature	−5°C to +45°C (23°F to 113°F)

Storage temperature	−20°C to +60°C (−4°F to 140°F)
Weight	3.3 kg (7 lb 4 oz)
Dimensions	

Unit: mm (inches)



Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm ($24\ ^{1}/_{4}$ x $32\ ^{3}/_{8}$ inches) T (telephoto): 51.4 x 68.5 mm ($2\ ^{1}/_{32}$ x $2\ ^{11}/_{16}$ inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm ($4\ ^{3}/_{4}$ x $8\ ^{1}/_{32}$ inches)

Viewfinder (DXF-3000/3000CE)

Picture tube indicators	1.5-inch monochrome REC/TALLY indicator BATT indicator LOW LIGHT indicator GAIN UP indicator
Resolution	400 lines
Power requirements	DC 12 V
Power consumption	2.3 W
Weight	Approx. 600 g (1 lb 5 oz)
Dimensions	Approx. 201 x 68 x 184mm (w/h/d) ($7\ ^{7}/_{8}$ x $2\ ^{11}/_{16}$ x $7\ ^{1}/_{4}$ inches)

Carrying case (LC-3001)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 620 x 394 x 234 mm (w/h/d) ($24\ ^{7}/_{16}$ x $15\ ^{1}/_{2}$ x $9\ ^{1}/_{4}$ inches)

Accessories supplied

CCQ-2ARS camera cable (with Q-type 14-pin connectors) (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
VCL-1012BY zoom lens (supplied with the DXC-3000K/3000PK only) (1)
DXF-3000/3000CE electronic viewfinder (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
LC-3001 carrying case (supplied with the DXC-3000/3000P/3000K/3000PK only) (1)
Lens cap (1)

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications.

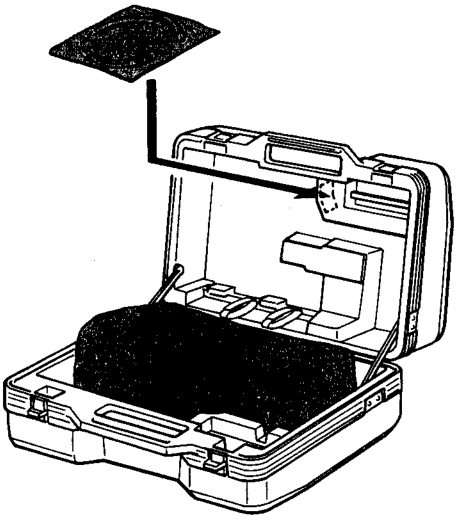
OPTIONAL ACCESSORIES AND RECOMMENDED EQUIPMENT

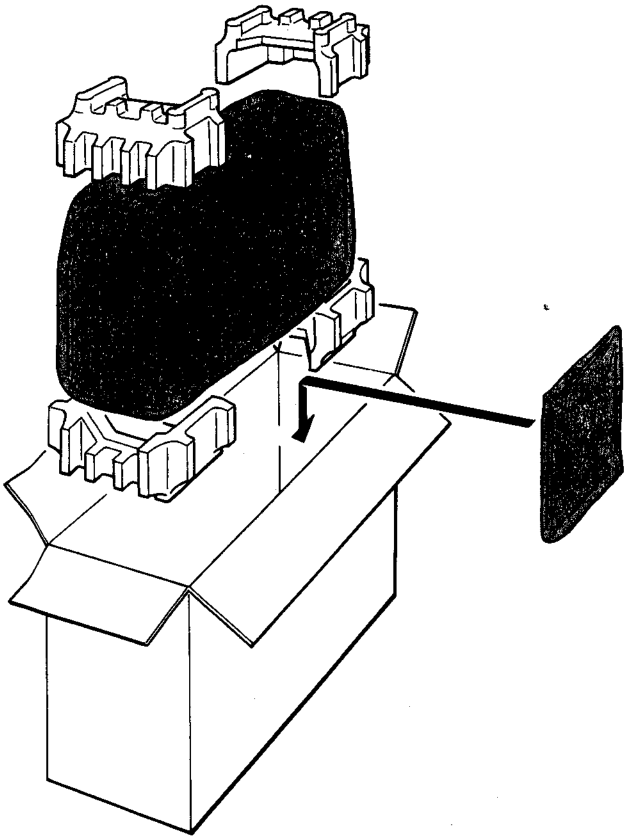
Camera control unit: CCU-M3/M3P
Special-effects generator: SEG-2000A/2000AP, SEG-2550/2550P
Universal chroma keyer: CRK-2000/2000P
Wipe pattern extender: WEX-2000, WEX-2000P/PM
Portable videocassette recorder: VO-6800/6800PS
Electronic viewfinder (5-inch, B/W): DXF-50/50CE
Electronic viewfinder (4-inch, B/W): DXF-40/40CE
Electronic viewfinder (1.5-inch, B/W): DXF-3000/3000CE
Camera adaptor: CMA-8/8CE
Battery adaptor: DC-8
Battery pack: NP-1
Battery charger: BC-1WA
Battery shoe: CAC-21
Zoom lens: VCL-1012BY
Lens remote control unit: LO-23
Condenser microphone: C-74
Microphone holder: CAC-11
Microphone cable: EC-0.5C2
Intercom headset: DR-100
Extension board for adjustment of the camera: EB-3000
Camera cable with Q-type 14-pin and K-type 14-pin connectors: CCQK-2
Camera cable with Q-type 14-pin and J-type 10-pin connectors: CCQJ-2
Camera cable with Q-type 14-pin connector: CCQ-2AR, CCQ-5AR, CCQ-10AR, CCQ-25AR, CCQ-50AR
Camera cable with Q-type 14-pin connector: CCQ-10AM, CCQ-25AM, CCQ-50AM, CCQ-100AM
Camera tripod: VCT-12
Rack mounting metal: RMM-1800
Carrying case: LC-3001

REPACKING FOR SHIPMENT

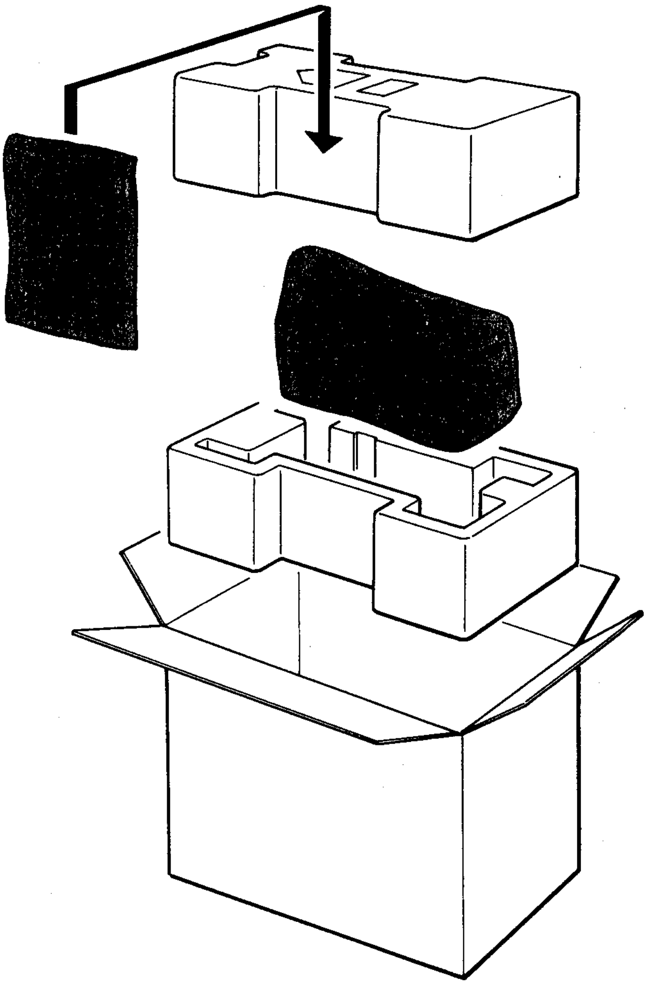
The repacking procedure is subject to change. Refer to the packing instruction on the original carton, as well as those shown here.

DXC-3000/3000P/3000K/3000PK



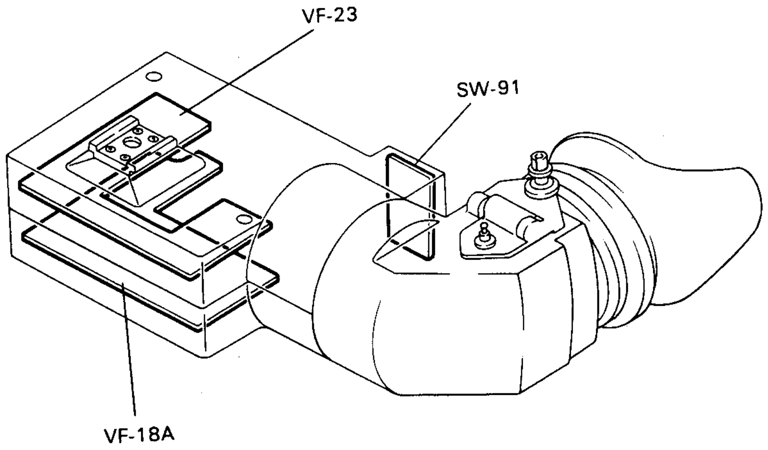


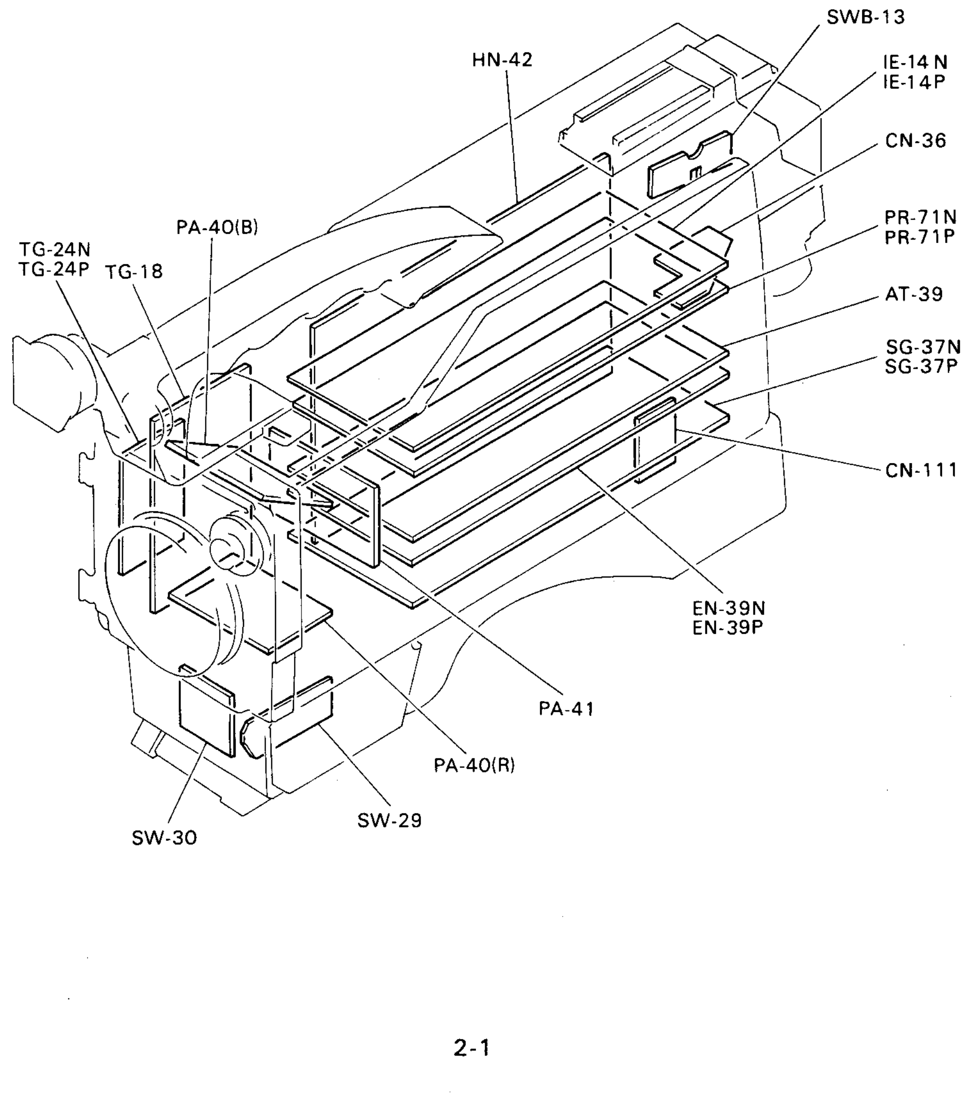
DXC-3000H/3000PH



SECTION 2
SERVICE INFORMATION

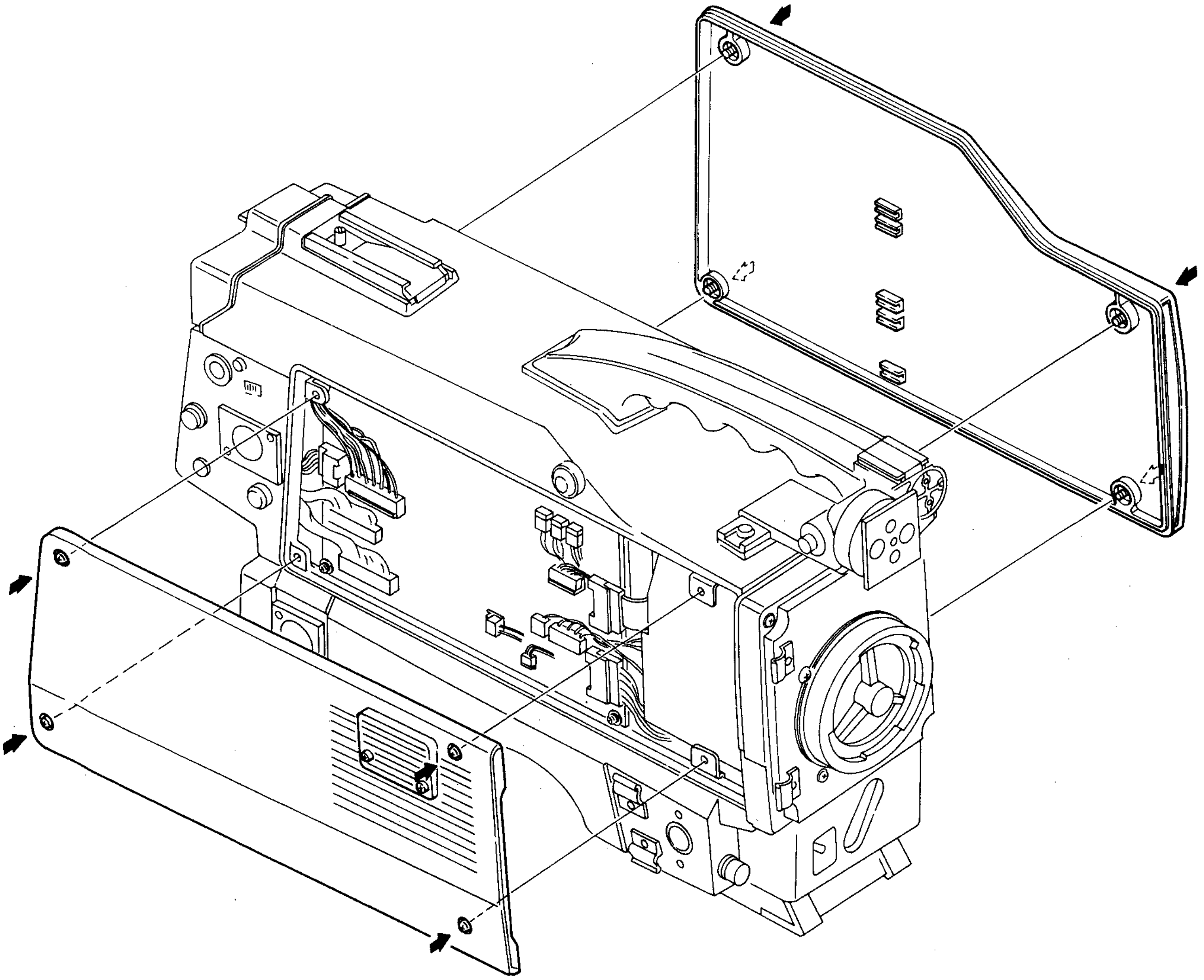
2-1. BOARD LAYOUT


VF-23
SW-91
VF-18A


SWB-13
HN-42
IE-14N
IE-14P
CN-36
PR-71N
PR-71P
PA-40(B)
TG-24N
TG-24P
TG-18
AT-39
SG-37N
SG-37P
CN-111
EN-39N
EN-39P
PA-41
PA-40(R)
SW-29
SW-30

2-2. REMOVAL OF OUTER

Remove the right and left side covers by loosing each four screws.

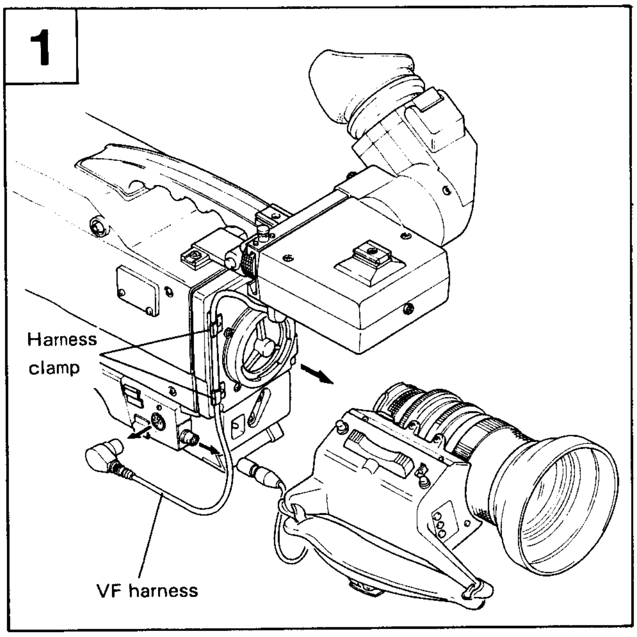


2-3. REPLACEMENT OF MAIN PARTS

2-3-1. REPLACEMENT OF FRONT UNIT

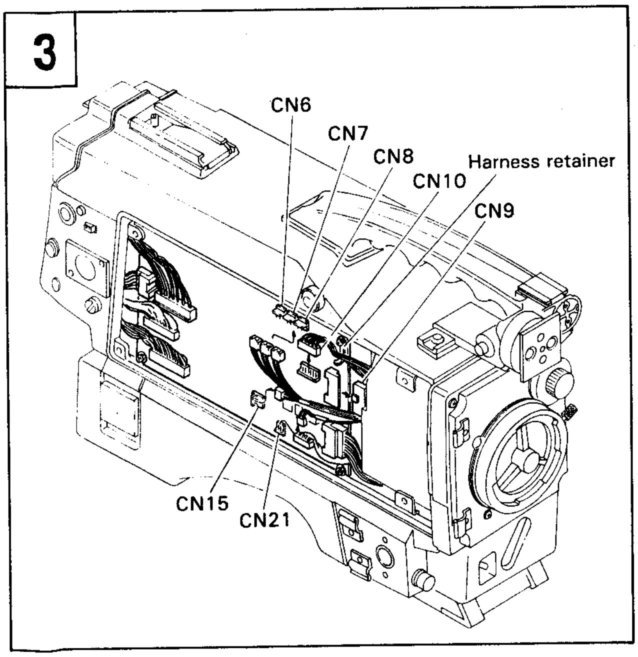
When the CCD BLOCK is replaced, replace it with the front unit.

1. Remove the lens and remove the VF harness from the harness clamp.

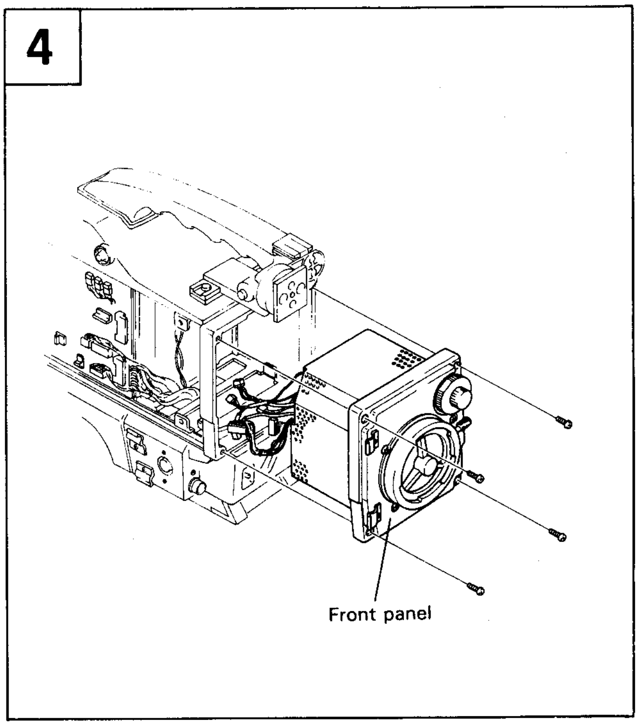

1
Harness clamp
VF harness

2. Remove the left side panel, refferring to REMOVAL OF OUTER.

3. Disconnect the CN6, CN7, CN8, CN9, CN10, CN15, CN21 from the HN-42 board.
   Straighten the harness retainer shown below and remove the harness.


3
CN6
CN7
CN8
Harness retainer
CN10
CN9
CN15
CN21

4. Remove the four screws located in the front panel and remove the front unit.

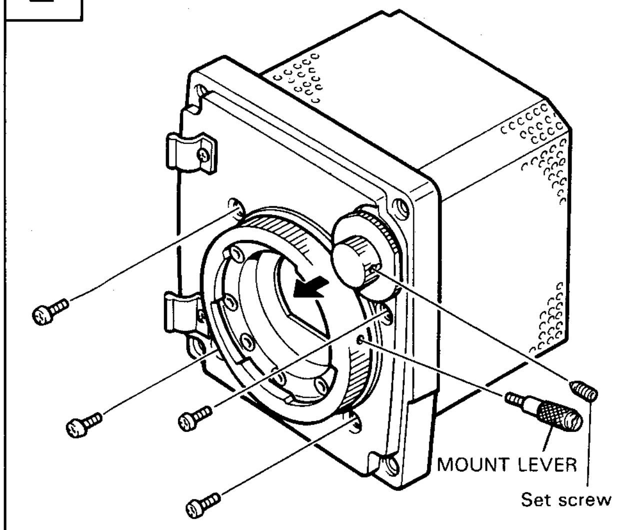

4
Front panel

5. Install a new front unit with the four screws (   ).
   Install the connectors which is disconnected at item 3.

2-3-2. REPLACEMENT OF FILTER PLATE.

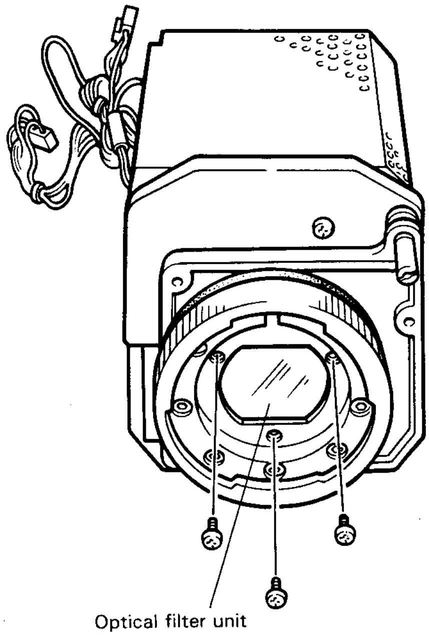
1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.
2. Remove the knob of filter by loosing the set screw.
   Remove the MOUNT LEVER.
   Remove the four screws which fix the CCD block to the front panel.

2



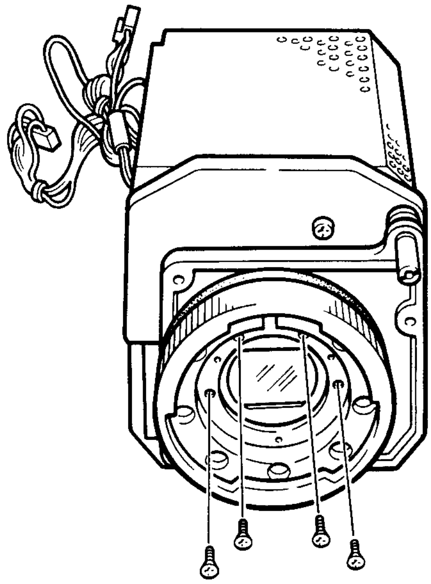
3. Remove the three screws and remove the optical filter unit.

3



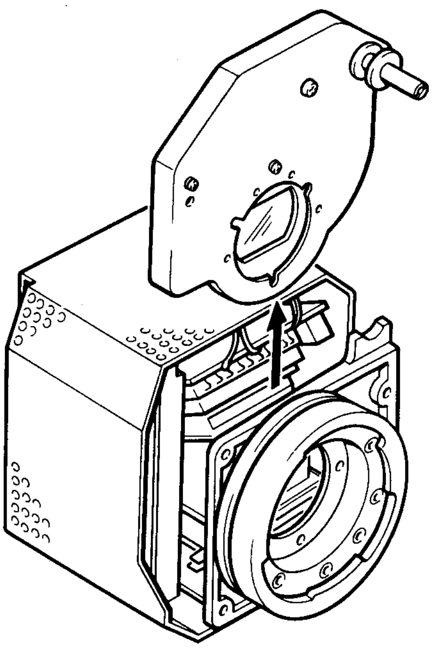
4. Remove the four screws and remove the mount base.

4

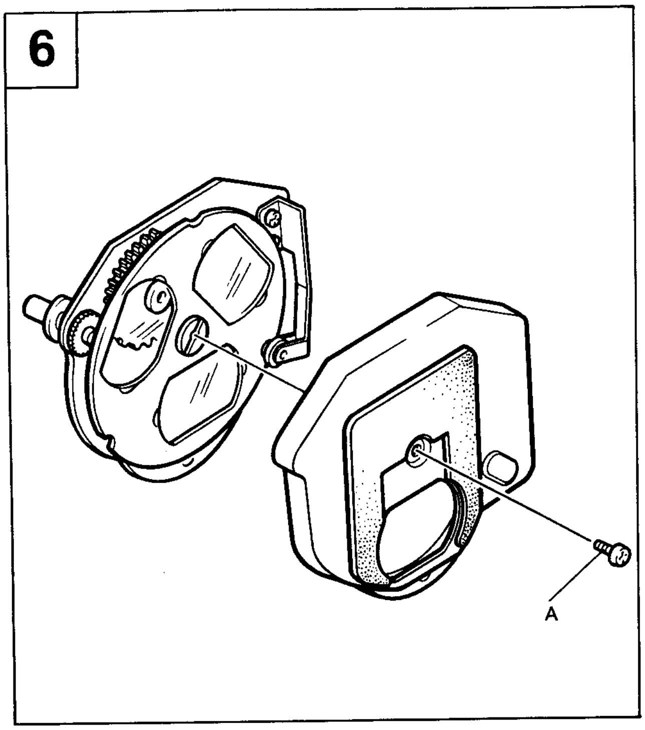


5. Lift up the filter disk unit in the direction shown by the arrow, and it can be removed.

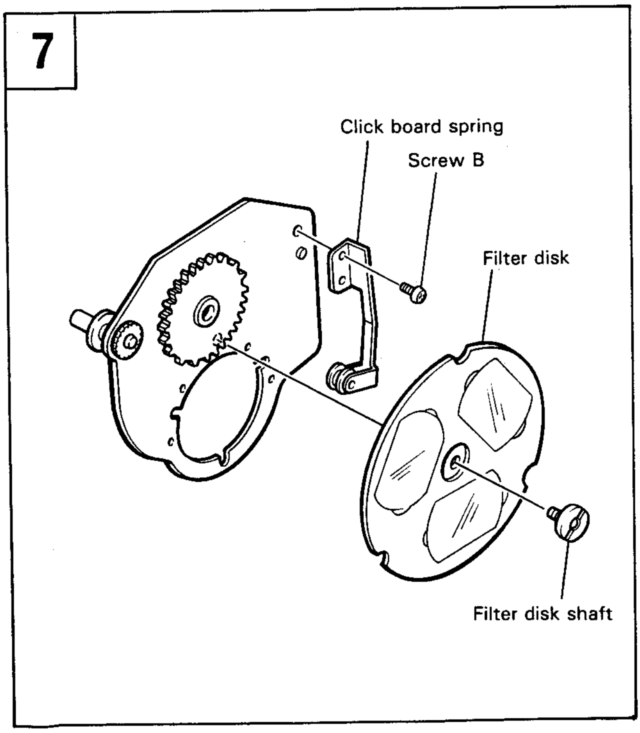
5



6. Remove the screw A at the center of the filter disk unit, and the filter disk can be removed.



7. Remove the screw B, and the clik board spring can be removed.
Remove the screw C, and the gear can be removed.


7
Click board spring
Screw B
Filter disk
Filter disk shaft

8. Reverse the removal procedure when the pick-up tube is replaced.

2-3-3. REPLACEMENT OF TG-18 BOARD

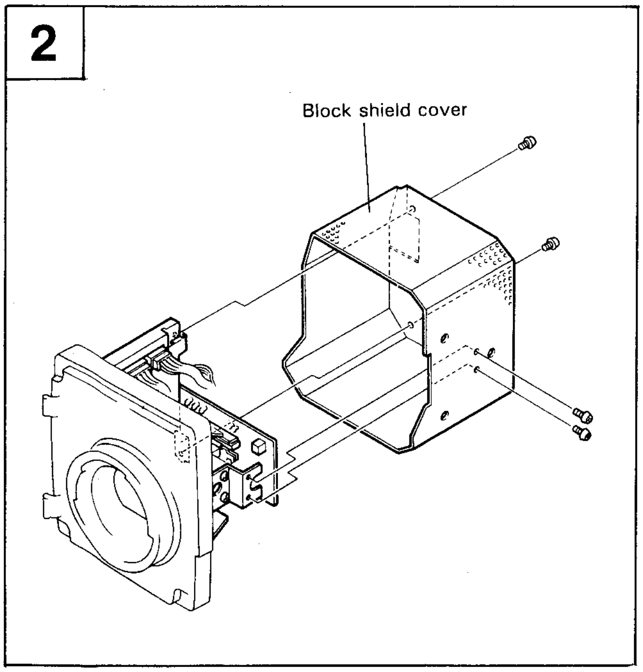
Be sure to change the ROM when replacing the TG-18 board.

When replacing the TG-18 board of DXC-3000 IP with the serial numbers described below, be sure to replace the TG-18 shielding case (A) at the same time. The old shielding case (A) does not apply to a new TG-18 board.

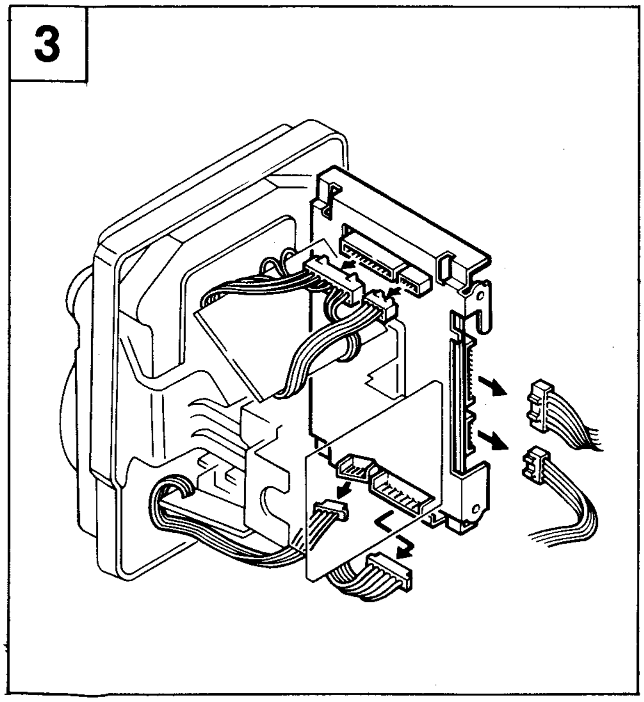
(UC) serial number 10001 ~ 10810
(EK) serial number 10001 ~ 10440

1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.

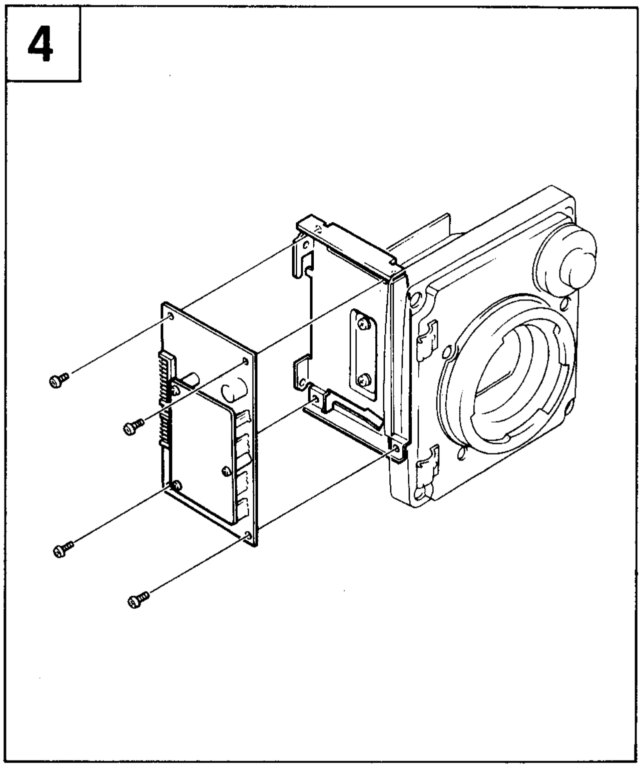
2. Remove the block shield cover.



3. Disconnect from CN1 to CN6 from the TG-18 board.

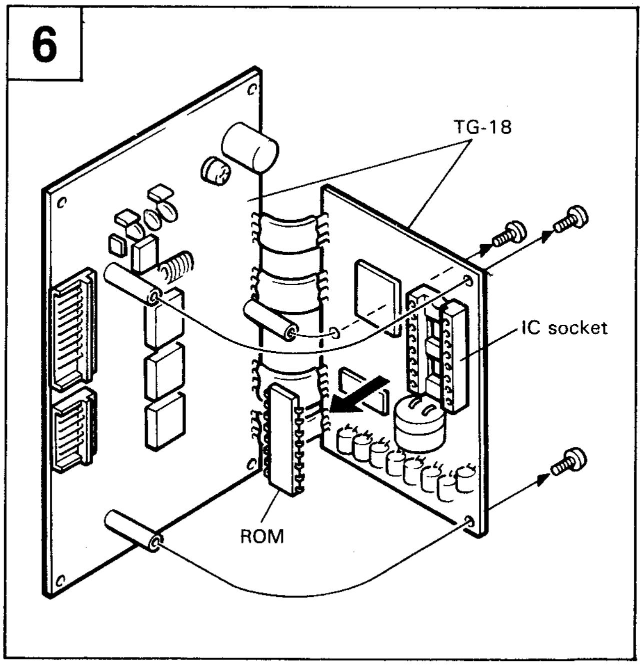


4. Remove the four screws and remove the TG-18 board.



5. Install a new TG-18 board.

6. Take out the ROM from IC2 on the TG-18 board and insert it to IC2 on the new TG-18 board.
   When the TG-18 board is replaced, be sure to replace the ROM.



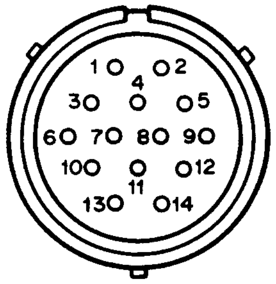
7. Insert the connector from CN1 to CN6 to the new TG-18 board and put the shield case on it.

2-4. CONNECTORS AND CABLES

2-4-1. Connector Input/Output signals

The main connector input/output signals are as follows:

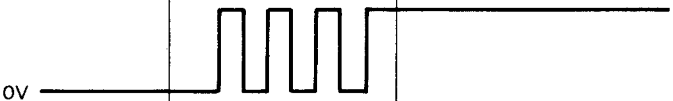
VIDEO OUT; 10Vp-p ± 0.1V, sync negative
75 Ω
GEN LOCK; 1.0Vp-p, sync negative
75 Ω
VTR/CCU (14P)



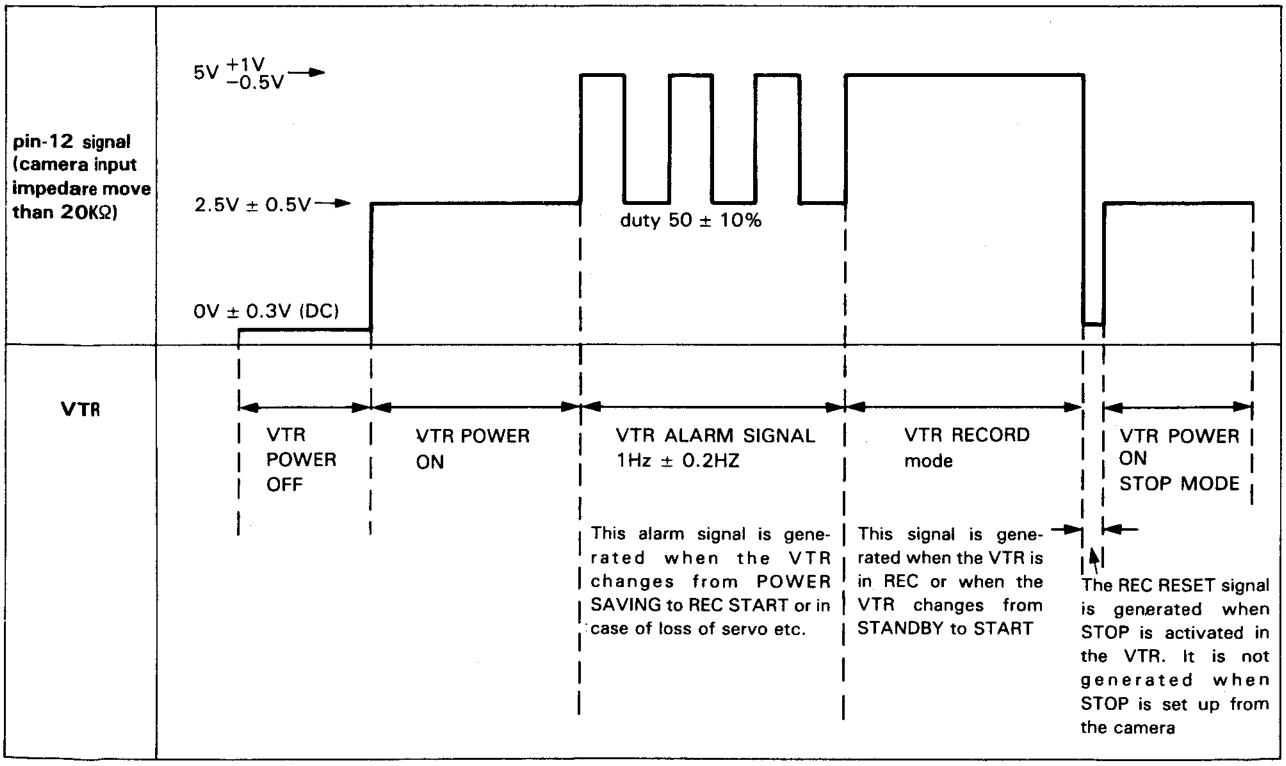
(EXT VIEW)

CCU		Pin No.	VTR	
REMARK FOR SIGNAL	SIGNAL		SIGNAL	REMARK FOR SIGNAL
10.6V~17V, 3A	UNREG GND	1	UNREG GND	10.6V~17V, 3A
	UNREG +12V IN	2	UNREG +12V IN	
−20dBs, 600Ω	INCOM OUT (X)	3	MIC OUT (X)	−60dBs, 600Ω
	INCOM OUT (Y)	4	MIC OUT (Y)	
	INCOM OUT (G)	5	MIC OUT (G)	
1.0Vp-p, 75Ω	COMPOSITE VIDEO OUT (X)	6	COMPOSITE VIDEO OUT (X)	1.0Vp-p, 75Ω
	COMPOSITE VIDEO OUT (G)	7	COMPOSITE VIDEO OUT (G)	
1.0Vp-p, 75Ω	RETURN VIDEO IN (G)	8	RETURN VIDEO IN (G)	1.0Vp-p, 75Ω
	RETURN VIDEO IN (X)	9	RETURN VIDEO IN (X)	
This signal is used for controlling CCU.	SERIAL DATA IN/OUT	10	BATTERY ALARM IN	(Note 1)
0.7Vp-p, 75Ω	R OUT (X)	11	COLOR FRAMING PULSE OUT	This signal is not used in VTR.
0.7Vp-p, 75Ω	G OUT (X)	12	REC/ALARM IN	(Note 2)
ON; 4.5±0.5Vdc OFF; 0±0.5Vdc	TALLY IN	13	VTR START/STOP OUT	START; 4.5±0.5Vdc STOP ; 0±0.5Vdc
0.7Vp-p, 75Ω	B OUT (X)	14	POWER SAVE OUT/ AUDIO MONITOR IN	SAVE; 4.5±0.5Vdc (across 10kΩ) STANDBY; 9.0±0.5Vdc (across 10kΩ) MONITOR; −6dB, 750Ω

Note 1. Signal at Pin 10
Battery voltage detection and warning signal generating circuits are located within the VTR. This signals are supplied from the VTR to the camera to either blink or light the LED at the bottom of the viewfinder.

BATTERY TERMINAL ADAPTOR (VTR INTERNAL BATTERY)	**DC12V ∼ 11.1V**	**DC11.1V ∼ 10.8V**	**PIN 10 TURNS HIGH AT DC 10.8V. 10.6V DC or below the VTR Internal Power is cut off so that the Battery Power is sent to Pin 13.**
PIN 10 OUTPUT FROM VTR	 0V	1Hz ± 0.2Hz duty 50 ± 10%	DC2 ∼ 3V across 300Ω
LED IN VIEWFINDER	NEITHER BLINKS NOR LIGHTS	BLINKS AT 1Hz	LIGHTS

Note 2: Signal at Pin 12
When the VTR is ON the input to the camera at pin 15 is 2.5V DC. In VTR record mode the voltage is 5V DC. When servo is not applied or if alarm signals are generated within the VTR an alternating 1Hz signal (2.5 Vp-p with 2.5V DC as reference) is sent to the camera. At the tape end when the VTR enters Stop mode or when setting up the Stop mode from the VTR. 0V DC is generated from 10 msec to 100 msec (called REC RESET). After REC RESET the signal level returns to 2.5V DC.

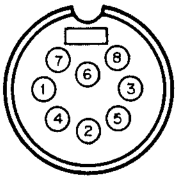

pin-12 signal (camera input impedare move than 20KΩ)
5V +1V −0.5V
2.5V ± 0.5V
0V ± 0.3V (DC)
duty 50 ± 10%
VTR
VTR POWER OFF
VTR POWER ON
VTR ALARM SIGNAL 1Hz ± 0.2HZ
VTR RECORD mode
VTR POWER ON STOP MODE

This alarm signal is generated when the VTR changes from POWER SAVING to REC START or in case of loss of servo etc.

This signal is generated when the VTR is in REC or when the VTR changes from STANDBY to START

The REC RESET signal is generated when STOP is activated in the VTR. It is not generated when STOP is set up from the camera

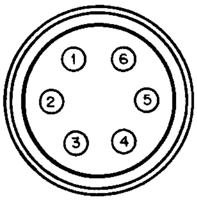
VF (8P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	REC/TALLY OUT	(Note 2)
3	(SPARE)	
4	VF VIDEO OUT (G)	
5	BATT IND, OUT	
6	VF VIDEO OUT (X)	1Vp-p
7	UNREG + 12V OUT	10.6V ~ 17V, 3A
8	(SPARE)	

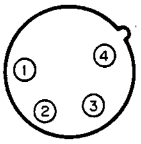
LENS (6P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	VF VIDEO CONT IN	ON: 0 ± 0.5Vdc
2	VTR START/STOP IN	TRIG: 0 ± 0.5V
3	UNREG (GND)	GND for + 12Vdc
4	FORCED AUTO IRIS OUT	5 ± 0.5Vdc
5	IRIS CONT OUT	F16 : 3.4Vdc F2.8 : 6.2Vdc
6	UNREG (+12V) OUT	10.6 ~ 17Vdc, 3A

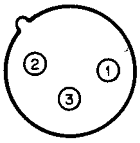
DC IN (4P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	(SPARE)	
3	(SPARE)	
4	UNREG + 12V IN	10.6V ~ 17V, 3A

MIC IN (3P)



(WIRING SIDE)

UC	J EK		
Pin No.	Pin No.	SIGNAL	REMARK FOR SIGNAL
1	1	MIC IN (G)	−60dBs, 600Ω
2	3		
3	2	MIC IN (X)	

2-4-2. Connections

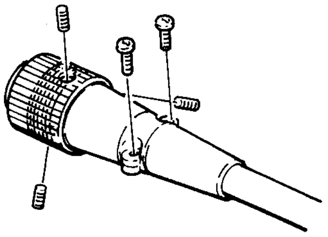
When cables with connectors are set to the respective connectors on the connector panel during installation or service, the specified or equivalent connectors with cables, or the specified cable assemblies should be used, these are listed as follows;

connector function	Parts No, and name of connector with cable
VIDEO OUT GEN LOCK (BNC)	1-560-069-11 PLUG, BNC or B-B cable assembly (Cable length 1.5m, optional)
VTR/CCU (14P, MALE)	1-561-043-00 CONNECTOR, 14P, FEMALE 1-508-171-00 CONNECTOR, 10P, MALE (for CCQJ cable) 1-508-929-00 CONNECTOR, 14P, MALE (for CCQ cable) 1-560-110-00 CONNECTOR, 14P, MALE (for CCQK cable) or cable assembly • For 10P-VTR use CCQJ-2 (2m) • For 14P-VTR use CCQK-2 (2m) CCQ-2AR (2m) CCQ-10AR (10m) • For CCU use CCQ-10AM (10m) CCQ-25AM (25m) CCQ-50AM (50m) CCQ-100AM (100m)
VF (8P, FEMALE)	1-560-247-00 CONNECTOR, 8P, MALE or extension cable assembly (optional) VK-10D VK-50X
LENS (6P, FEMALE)	HR10-7PA-6PS PLUG, 6P, MALE
DC IN (4P, MALE)	1-560-261-00 XLR-4P, FEMALE or cable assembly (optional) 1-551-969-00
MIC IN (3P, FEMALE)	1-516-125-00 XLR-3P, MALE CANON XLR-3-12C equallity
INTERCOM (JACK)	1-557-339-00 PLUG, MINI (with senser) or head set DR-100 (optional)

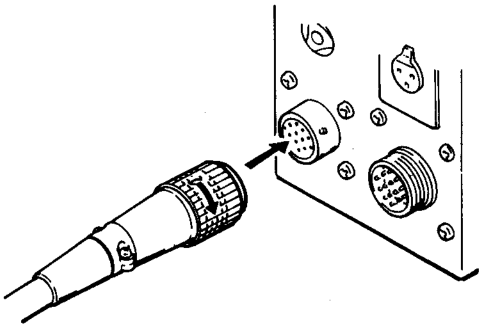
2-4-3. Removal of the CCQ connector

CCQ Connector (Removal of the connector)

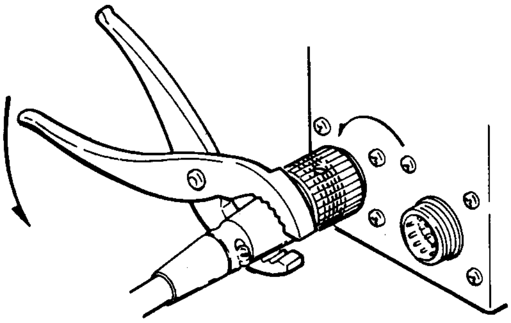
Step 1.
Remove the three hexagonal setscrews and the two ⊕ setscrews.



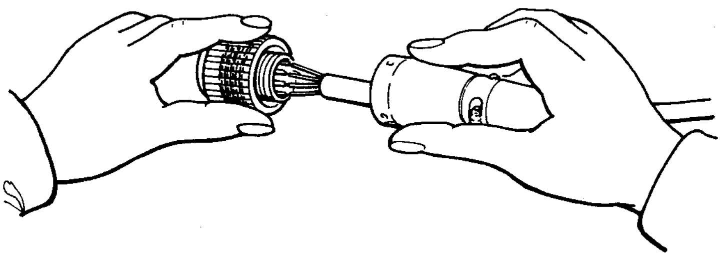
Step 2.
Fix the CCQ connector at the camera or VTR connector.



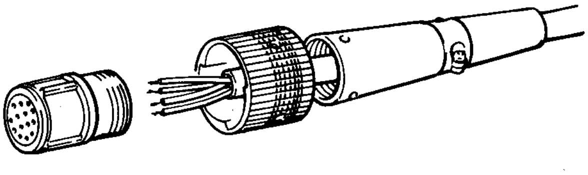
Step 3.
Rotate the CCQ connector to counterclockwise by the plier and loosen it.



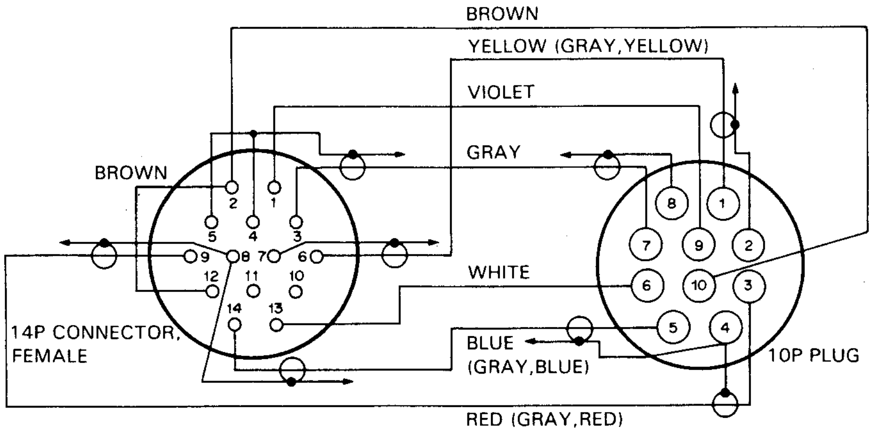
Step 4.
It can be removed by hand and unsolder



Step 5.
It can be broken up as shown in Figure.

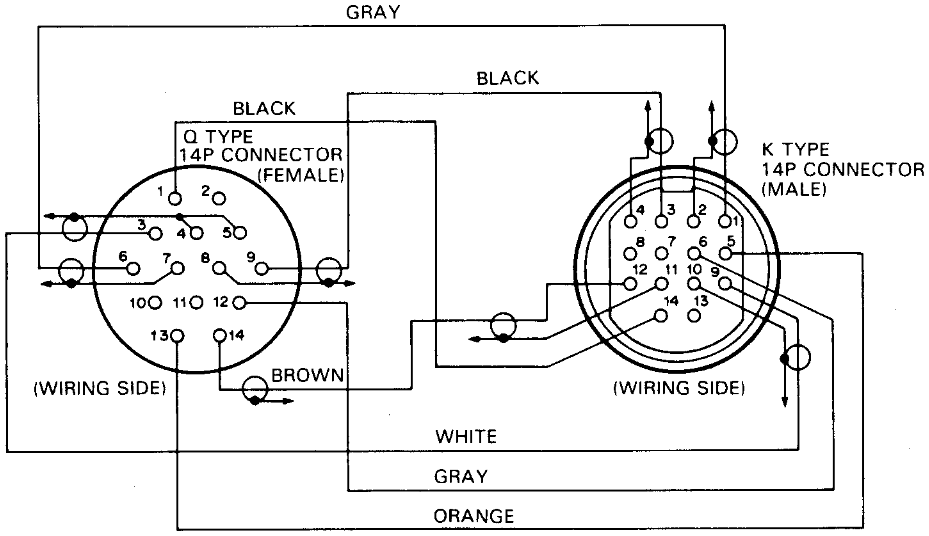


CCQJ cable (Wiring diagram)

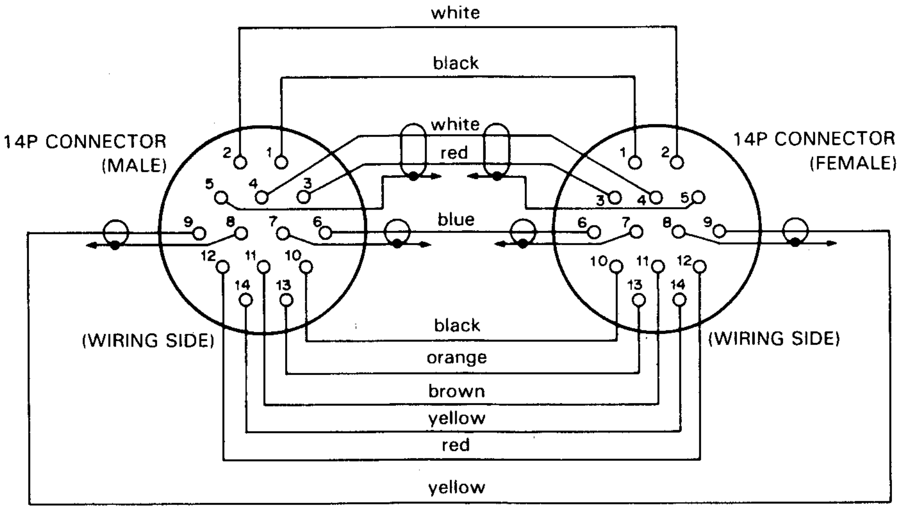

BROWN
YELLOW (GRAY,YELLOW)
VIOLET
GRAY
BROWN
WHITE
14P CONNECTOR, FEMALE
BLUE (GRAY,BLUE)
10P PLUG
RED (GRAY,RED)
1
2
3
4
5
6
7
8
9
10
11
12
13
14

( )colors of spiral mark on wire

CCQK cable (Wiring diagram)

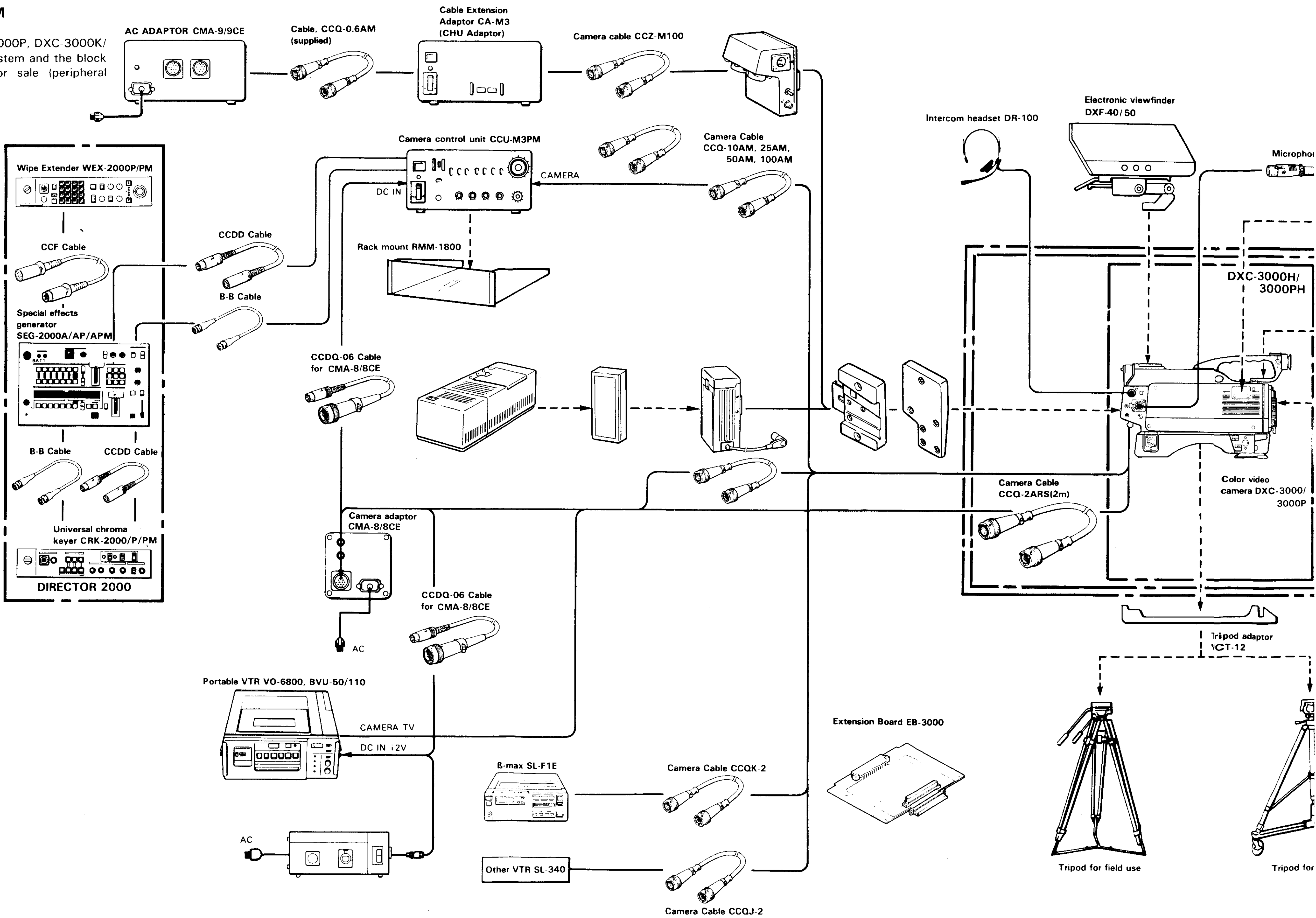

GRAY
BLACK
BLACK
Q TYPE 14P CONNECTOR (FEMALE)
K TYPE 14P CONNECTOR (MALE)
(WIRING SIDE)
BROWN
(WIRING SIDE)
WHITE
GRAY
ORANGE
1
2
3
4
5
6
7
8
9
10
11
12
13
14

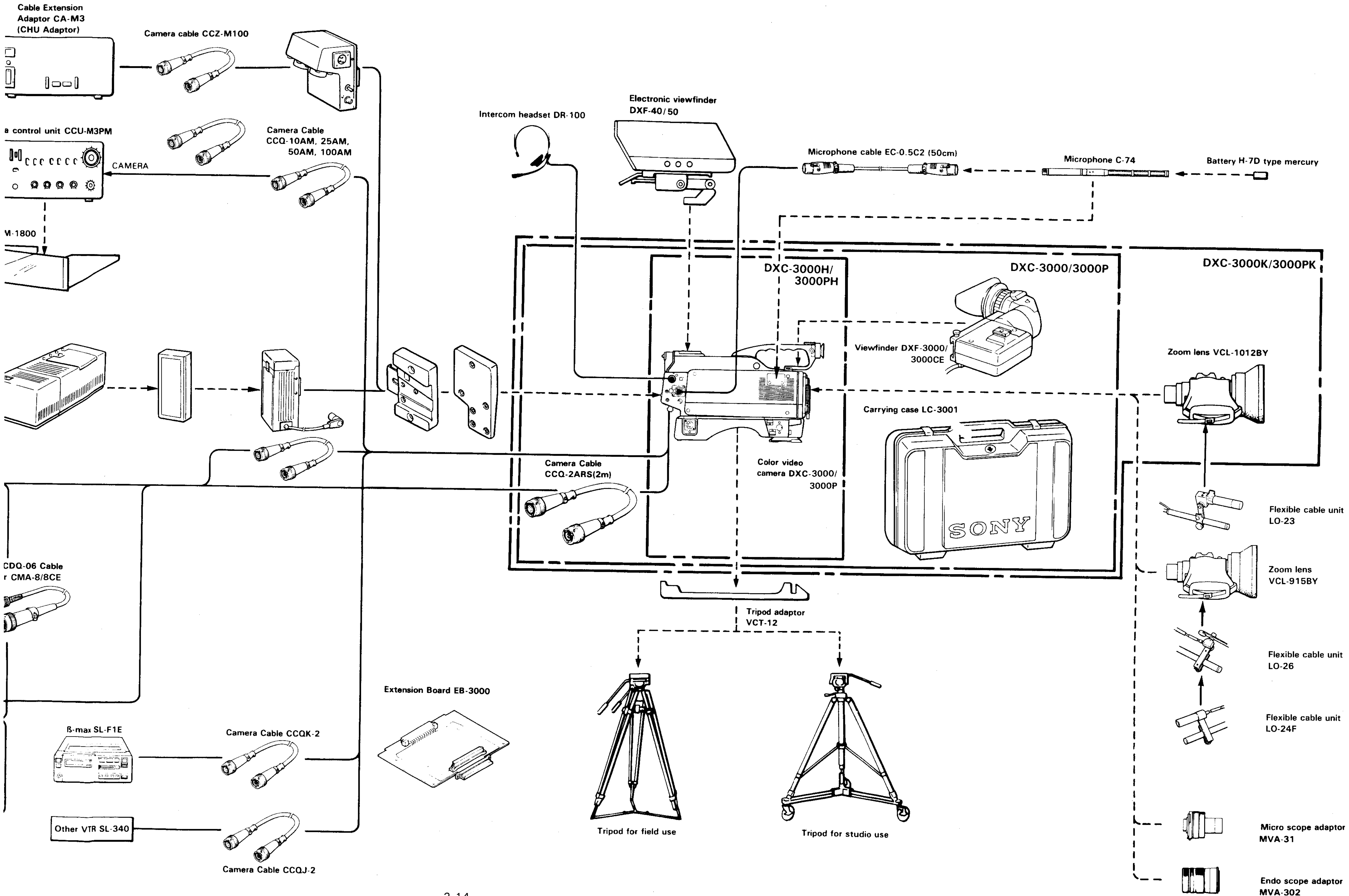
CCQ cable (Wiring diagram)


white
black
14P CONNECTOR (MALE)
white
red
14P CONNECTOR (FEMALE)
blue
(WIRING SIDE)
black
orange
brown
yellow
red
(WIRING SIDE)
yellow
1
2
3
4
5
6
7
8
9
10
11
12
13
14

2-5. SYSTEM BLOCK DIAGRAM

The configuration of the DXC-3000/3000P, DXC-3000K/3000PK and DXC-3000H/3000PH system and the block diagram of separate accessories for sale (peripheral devices) are shown.


AC ADAPTOR CMA-9/9CE
Cable, CCQ-0.6AM (supplied)
Cable Extension Adaptor CA-M3 (CHU Adaptor)
Camera cable CCZ-M100
Camera control unit CCU-M3PM
DC IN
CAMERA
Camera Cable CCQ-10AM, 25AM, 50AM, 100AM
Intercom headset DR-100
Electronic viewfinder DXF-40/50
Microphon
Wipe Extender WEX-2000P/PM
CCF Cable
Special effects generator SEG-2000A/AP/APM
B-B Cable
CCDD Cable
Universal chroma keyer CRK-2000/P/PM
DIRECTOR 2000
CCDD Cable
B-B Cable
Rack mount RMM-1800
CCDQ-06 Cable for CMA-8/8CE
DXC-3000H/3000PH
Camera adaptor CMA-8/8CE
AC
Camera Cable CCQ-2ARS(2m)
Color video camera DXC-3000/3000P
CCDQ-06 Cable for CMA-8/8CE
Tripod adaptor VCT-12
Portable VTR VO-6800, BVU-50/110
CAMERA TV
DC IN 12V
AC
Extension Board EB-3000
ß-max SL-F1E
Camera Cable CCQK-2
Other VTR SL-340
Camera Cable CCQJ-2
Tripod for field use
Tripod for


Cable Extension
Adaptor CA-M3
(CHU Adaptor)
Camera cable CCZ-M100
a control unit CCU-M3PM
CAMERA
Camera Cable
CCQ-10AM, 25AM,
50AM, 100AM
M-1800
Intercom headset DR-100
Electronic viewfinder
DXF-40/50
Microphone cable EC-0.5C2 (50cm)
Microphone C-74
Battery H-7D type mercury
DXC-3000H/
3000PH
DXC-3000/3000P
DXC-3000K/3000PK
Viewfinder DXF-3000/
3000CE
Zoom lens VCL-1012BY
Carrying case LC-3001
SONY
Camera Cable
CCQ-2ARS(2m)
Color video
camera DXC-3000/
3000P
Flexible cable unit
LO-23
Zoom lens
VCL-915BY
CDQ-06 Cable
r CMA-8/8CE
Tripod adaptor
VCT-12
Flexible cable unit
LO-26
Extension Board EB-3000
Flexible cable unit
LO-24F
ß-max SL-F1E
Camera Cable CCQK-2
Other VTR SL-340
Tripod for field use
Tripod for studio use
Micro scope adaptor
MVA-31
Camera Cable CCQJ-2
Endo scope adaptor
MVA-302

2-6. NOTE ON SERVICE

(1) When replacing the front unit assembly, also replace the ROM IC (supplied together with CCD block parts).

(2) When replacing board TG-18 on which the ROM IC (MB7052) is mounted, remove the ROM from the board and mount it on a new TG-18 board.

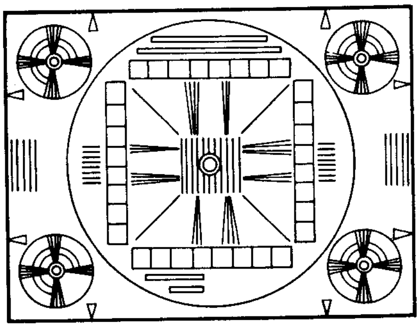
(3) The PA-40(R) board, PA-41(G) board and PA-40(B) board on which the CCD is mounted had better not be removed.
When removing it, the CCD is sometimes broken by the static electricity.
If the CCD is broken, the whole CCD unit must be replaced.

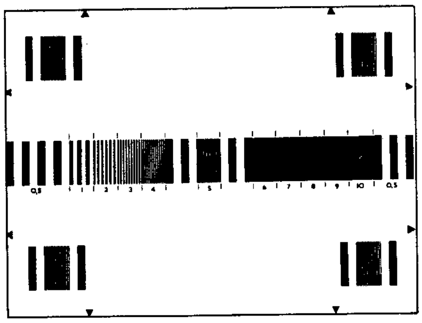
SECTION 3
ALIGNMENT

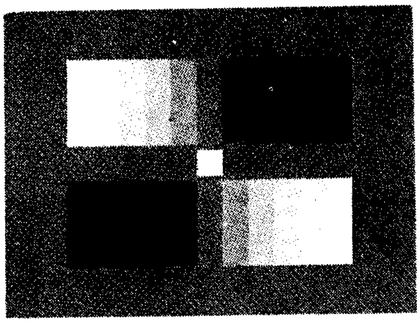
3-1. PREPARATION

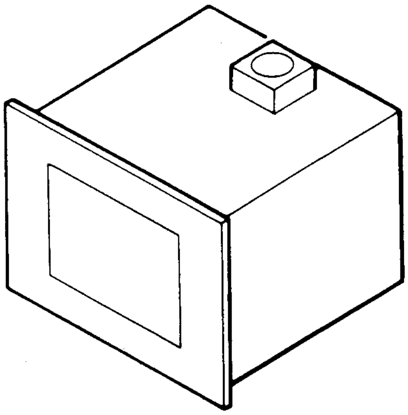
3-1-1. Equipment Required

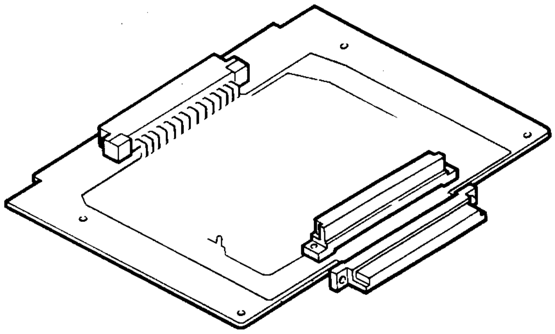
- Oscilloscope (more than 30 MHz)
- Waveform monitor
- Vectorscope
- Black and white monitor (Sony PVM-91CE or equivalent)
- Color Monitor (Sony PVM-1320P or equivalent)
- AC Adaptor (Sony CMA-7CE or CMA-8CE)
- Frequency counter

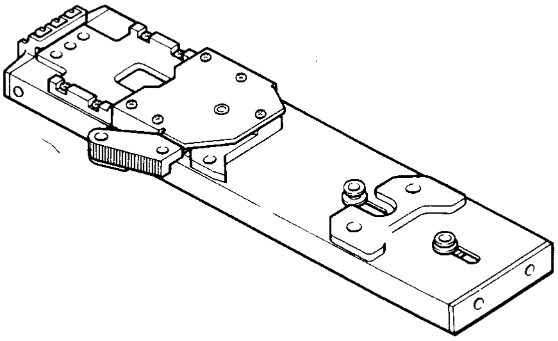
J-6026-100-A	**Resolution chart**
	

J-6026-110-A	**Multiburst chart**
 0.5 1 2 3 4 5 6 7 8 9 10 0.5	

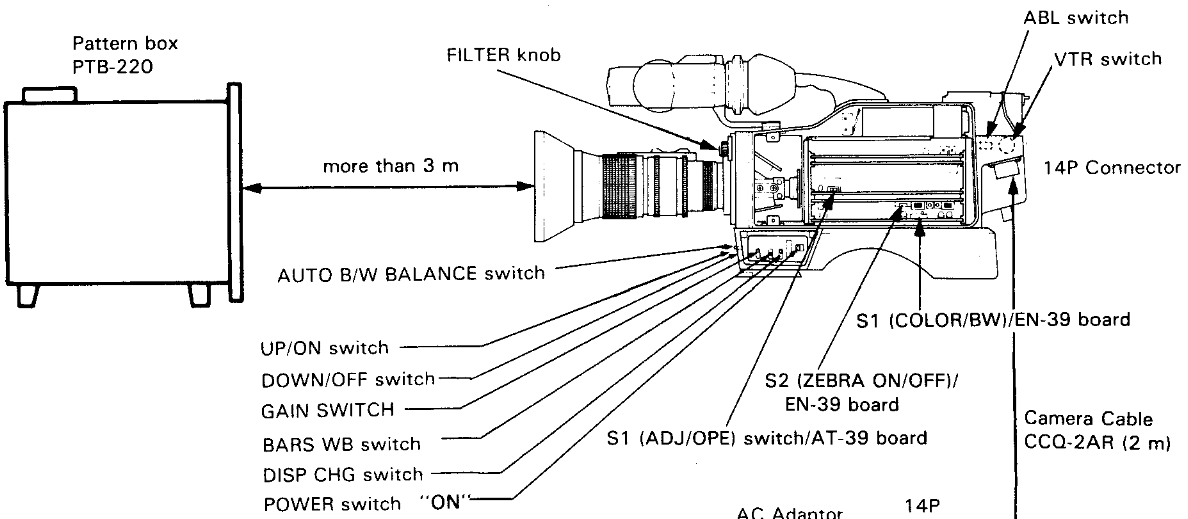
J-6026-130-A	**Grayscale chart**
	

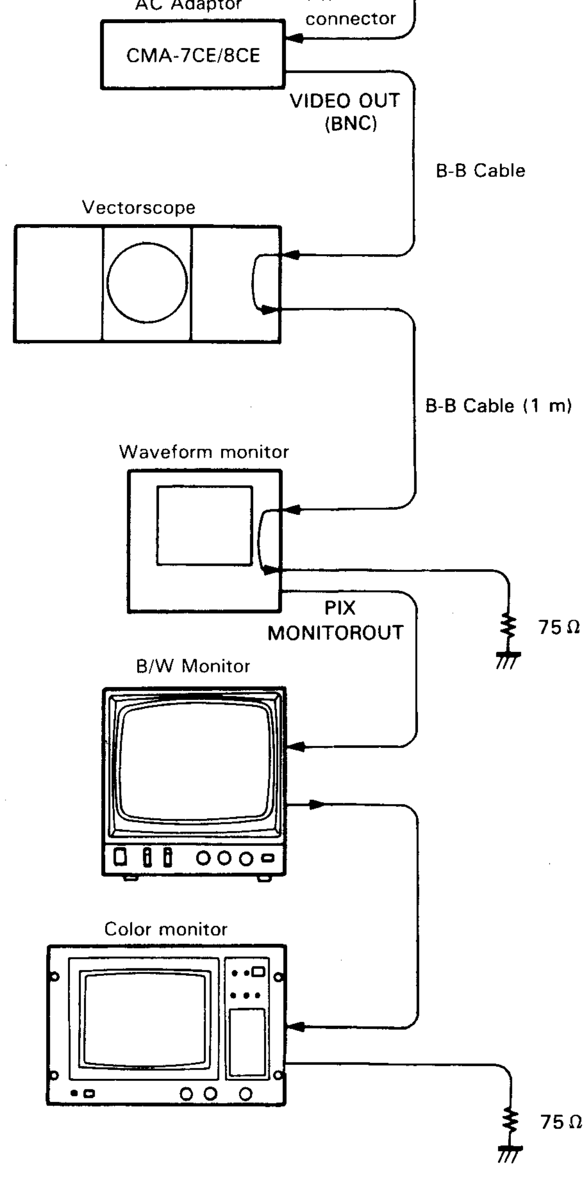
J-6020-680-A	**PTB-220 Pattern Box**
• Light source for test chart (190 to 240 VAC) 	

A-7513-383-A	Extension board EX-98
• For adjustment of IE-14, PR-71, AT-39, EN-39, and SG-37 boards 	

VCT-12 Tripod Adaptor


3-1-2. Connections and initial setting


Pattern box
PTB-220
FILTER knob
ABL switch
VTR switch
more than 3 m
14P Connector
AUTO B/W BALANCE switch
S1 (COLOR/BW)/EN-39 board
UP/ON switch
DOWN/OFF switch
GAIN SWITCH
BARS WB switch
DISP CHG switch
POWER switch "ON"
S2 (ZEBRA ON/OFF)/
EN-39 board
S1 (ADJ/OPE) switch/AT-39 board
Camera Cable
CCQ-2AR (2 m)


AC Adaptor
14P
connector
CMA-7CE/8CE
VIDEO OUT
(BNC)
B-B Cable
Vectorscope
B-B Cable (1 m)
Waveform monitor
PIX
MONITOROUT
75 Ω
B/W Monitor
Color monitor
75 Ω

Set the camera switches and controls as follows.
GAIN switch: 0 dB
BARS WB switch: 3200°K
ABL switch: OFF
VTR switch: 1
FILTER knob: 1

EN-39 board
S1 (COLOR/BW) switch: COLOR
S2 (ZEBRA ON/OFF) switch: OFF

AT-39 board
Reset the back-up memory by changing over the S1 (COLOR/OPE) switch as follows.
Step 1. Set the POWER switch to OFF position.
Step 2. Set the S1 switch to ADJ.
Step 3. Set the POWER switch to ON position.
MEMORY NG is then displayed on the viewfinder screen.

Note: During the adjustment, do not touch the following switches.
If the switches are changed over, be sure to reset the back-up memory again.

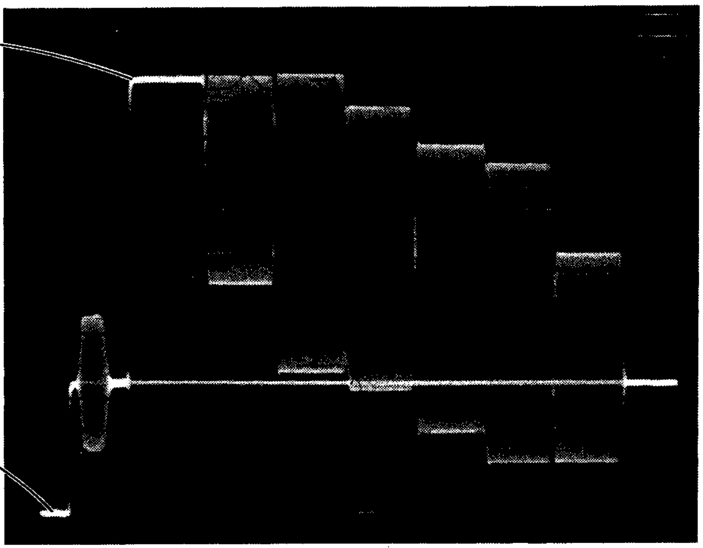
- Auto B/W BALANCE switch
- S1 (ADJ/OPE) switch

3-2. BEFORE ADJUSTMENT

Note: 1. Before adjustment, connect the equipments referring to 3-1-2 Connection and Initial Setting. And cofirm that the following specifications are satisfied.
2. Before adjustment, set the POWER switch to ON and warm up for about 10 minutes.

3-2-1. Color bar signal

Equipment: Vectorscope, Waveform monitor
Preparation: Set the BARS WB switch on the side of the camera to BARS
Specifications:



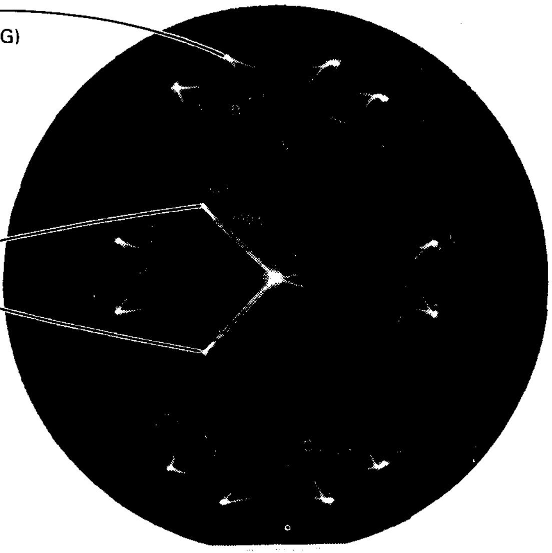
Y level 700 ± 15 mV

SYNC level
300 ± 15 mV

Note: Partial difference between scale and signal level is caused by photographic error.

Chroma level

- Adjust so that the beam spots of each color (R, YL, G, CY, B, and MG) are inside the "⊞" mark.



Burst spot 75%

3-2-2. Sensitivity measurement

Object: White pattern

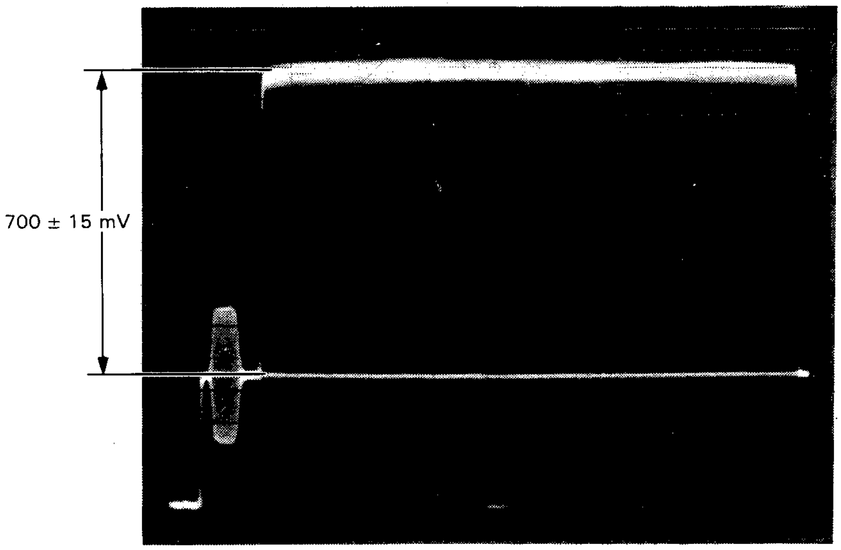
Lighting: 3200°K, 2000 lux
(If the pattern box is used, set the AUTO mode to "706 Nit")

Preparation:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.
2. Manually set the iris control to F5.6
3. Set the BARS WB switch on the front of the camera to AUTO.
4. Perform the automatic white balancing.

Equipment: Waveform monitor

Specifications: Adjust so that the white level of the grayscale chart is 700 ± 15 mV.



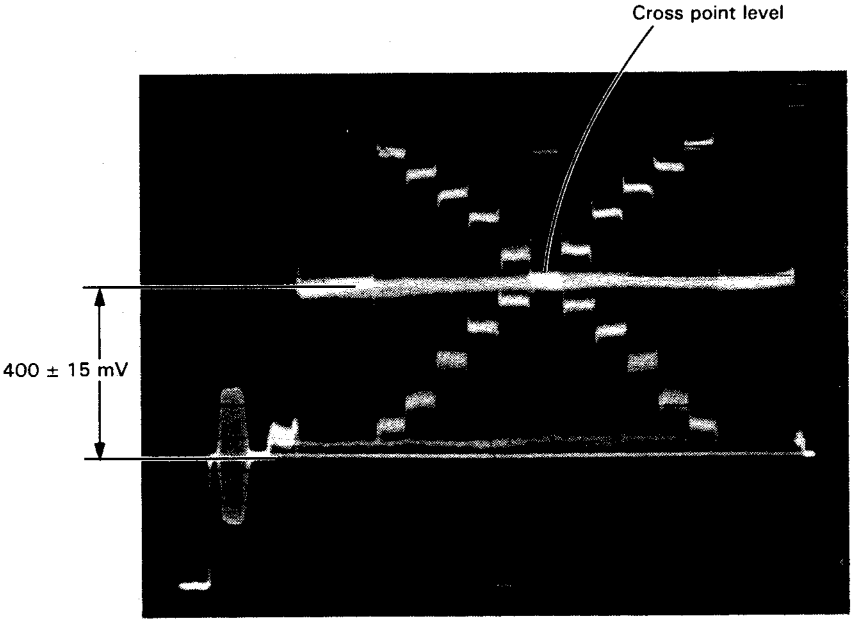
Note: When the specification is not satisfied, perform all adjustments in 3-6, Video Process System.

3-2-3. Gamma and gradation measurement

Object: Grayscale chart
(Sony parts number J-6026-130-A)
Light: Pattern box PTB-220
Equipment Waveform monitor
Preparation:

1. Set the BARS WB switch on the side of the camera to 3200 °K.
2. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.
3. Adjust the iris control so that the white level of Grayscale chart is 700 ± 15 mV on the waveform monitor.

Specification: Adjust so that the cross point level of the grayscale chart is 400 ± 15 mV.



Note: Partial difference between signal level and scale is caused by a photographic error.

Note: When the specification is not satisfied, carry out 3-6-8 G ch Gamma Balance and Gamma Set Adjustment.

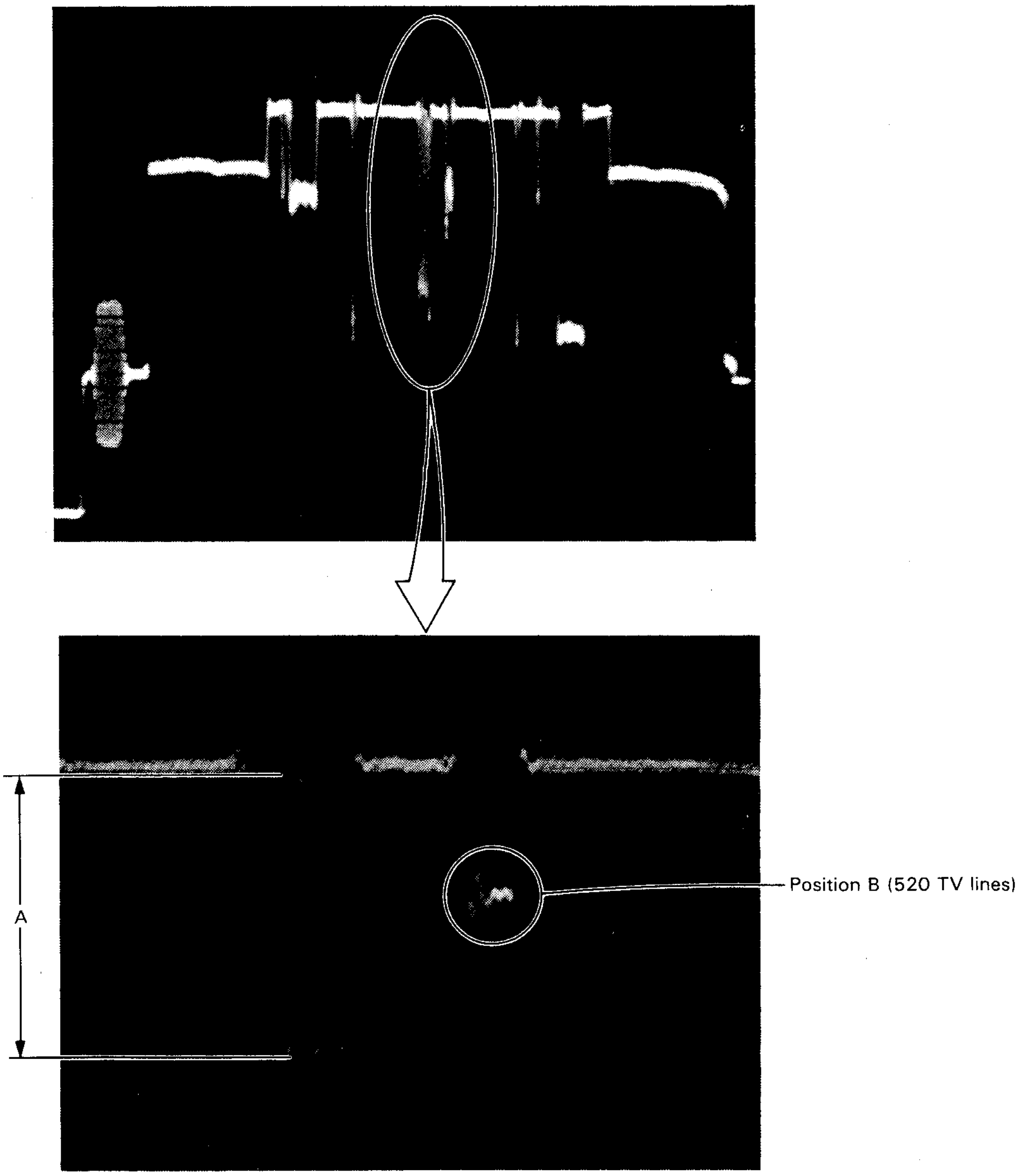
3-2-4. Resolution measurement

Object: Resolution chart
(Sony parts number J-6026-100-A)
Light: Pattern box PTB-220
Equipment: Waveform monitor
Preparation:

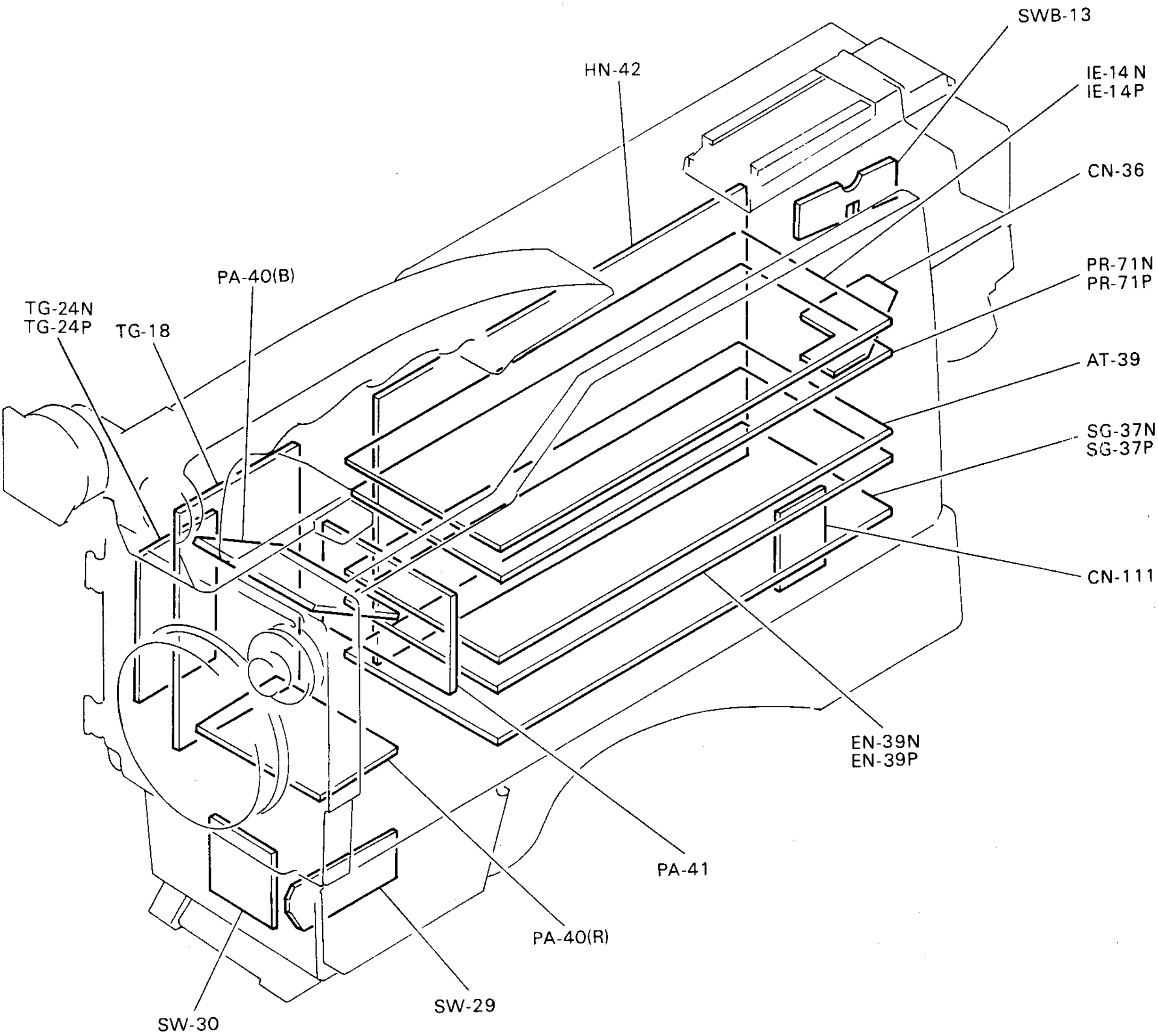
1. Set the BARS WB switch on the side of the camera to 3200°K
2. Adjust the zoom control so that the resolution chart frame touches the underscanned frame on the monitor.
3. Adjust the iris control so that the white level of the resolution chart is 560 ± 14 mV on the waveform monitor.
4. Adjust the focus control so that the amplitude ''A'' of the resolution chart is maximized.
5. Set the ''LINE SELECTOR'' of the waveform monitor to the 520 TV lines of the resolution chart.

Specification: Four negative peaks corresponding to four black stripes must appear at the 520 TV lines, position ''B'' of the resolution chart on the monitor.
The CCD device has 510 picture elements in the horizontal line. When the vertical black stripes corresponding to 520 TV lines are optically positioned between each element in the CCD, the black stripes do not appear on the monitor. It seems that the resolution has been reduced. In this case, pan the camera slightly so that the best resolution is obtained.

Note: When the specification is not satisfied, perform 3-9. Resolution Adjustment.



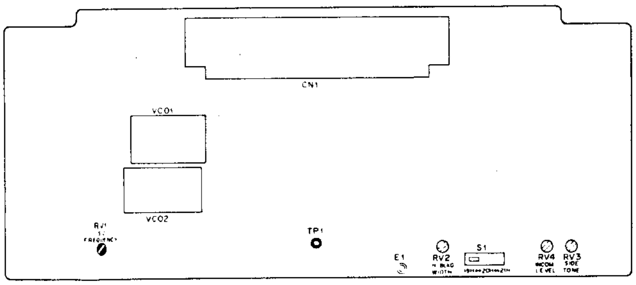
3-3. BOARD ARRANGEMENT


SWB-13
HN-42
IE-14 N
IE-14P
CN-36
PR-71N
PR-71P
PA-40(B)
TG-24N
TG-24P
TG-18
AT-39
SG-37N
SG-37P
CN-111
EN-39N
EN-39P
PA-41
PA-40(R)
SW-29
SW-30

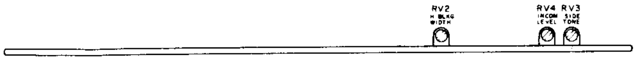
3-4. SYNC SIGNAL SYSTEM (SG-37 BOARD)

3-4-1. Sub carrier frequency adjustment

Equipment: Frequency counter
To be extended: SG-37 board
Test point: TP 1 (GND: E1)/SG 37 board
Adjustment point: ⊘ RV1/SG-37 board
Specification: 4,433,618 Hz ± 30 Hz


CN1
VCO1
VCO2
RV1
SC FREQUENCY
TP1
E1
RV2
H BLKG WIDTH
S1
RV4
INCOM LEVEL
RV3
SIDE TONE

SG-37 board (component side)

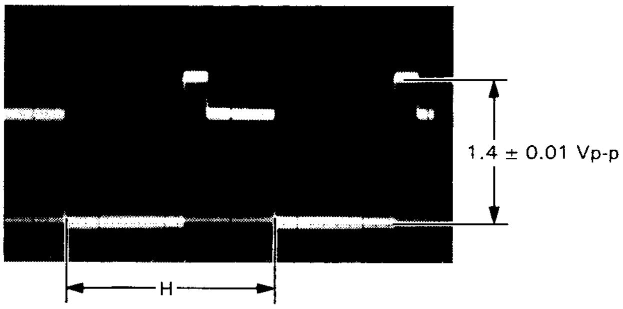

RV2
H BLKG WIDTH
RV4
INCOM LEVEL
RV3
SIDE TONE

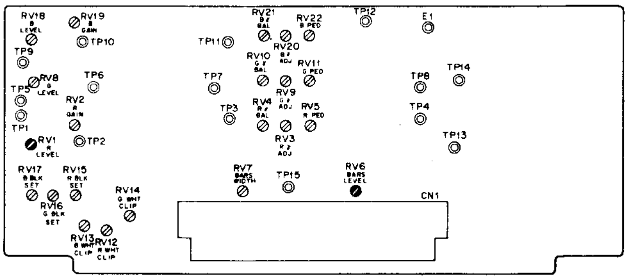
SG-37 board (panel side)

3-5. ENCODER SYSTEM (PR-71, EN-39 BOARD)

3-5-1. BARS level adjustment

Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of camera to BARS.
Test point: B13 (GND: A1)/extension board
Trigger: ⊘HD (A6 on the extension board)
Adjustment point: ⊘ RV6/PR-71 board
Specification: 1.4 ± 0.01 Vp-p




RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP6
TP5
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
TP11
RV21
B Y BAL
RV22
B PED
RV20
B Y ADJ
RV10
G Y BAL
RV11
G PED
TP7
RV9
G Y ADJ
TP3
RV4
R Y BAL
RV5
R PED
RV3
R Y ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
CN1
TP12
E1
TP14
TP8
TP4
TP13

PR-71 board (component side)

3-5-2. Y. SYNC and ~~SET-UP~~ Video level adjustment

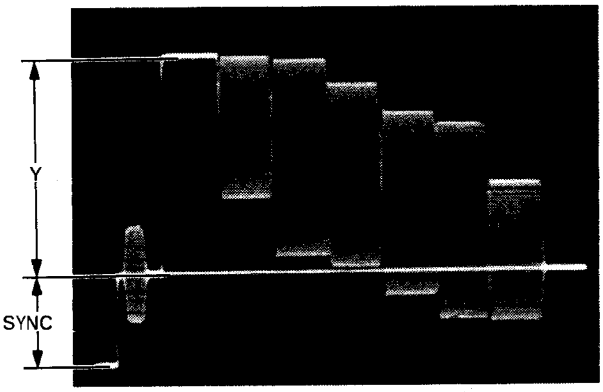
Equipment: Waveform monitor

To be extended: EN-39 board

Preparation: Set the BARS WB switch on the side of camera to BARS.

Adjustment:

1. Adjust ⊘ RV10/EN-39 board so that the SYNC level of the color bars signal is 300 ± 15 mV.
2. Adjust ⊘ RV1/EN-39 board so that the Y level of the color bars signal is 700 ± 15 mV.



3. Repeat steps 1 to 3 several times until the specifications are satisfied.

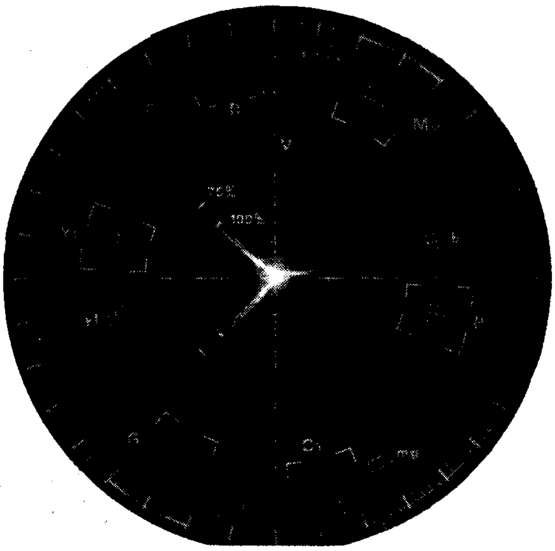
3-5-3. Carrier balance adjustment

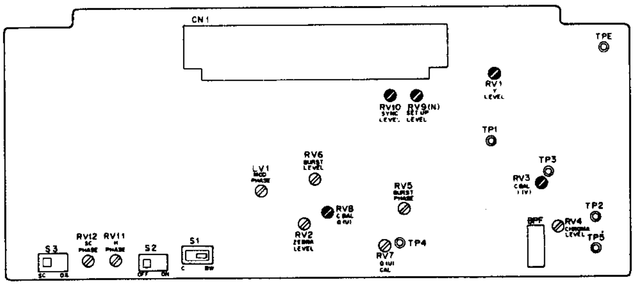
Equipment: Vectorscope (MAX GAIN)

To be extended: EN-39 board

Preparation: Set the BARS WB switch on the side of camera to BARS.

Adjustment: Adjust ⊘ RV3 and ⊘ RV8/EN-39 board so that the white beam spot is in the center of the vectorscope.




CN1
TPE
RV1
Y
LEVEL
RV10
SYNC
LEVEL
RV9(N)
SET UP
LEVEL
TP1
RV6
BURST
LEVEL
LV1
MOD
PHASE
RV5
BURST
PHASE
TP3
RV3
C BAL
1(V)
RV8
C BAL
2(U)
RV2
ZEBRA
LEVEL
TP2
BPF
RV4
CHROMA
LEVEL
TP5
TP4
RV7
2(U)
CAL
S3
SC
OS
RV12
SC
PHASE
RV11
H
PHASE
S2
OFF
ON
S1
C
BW

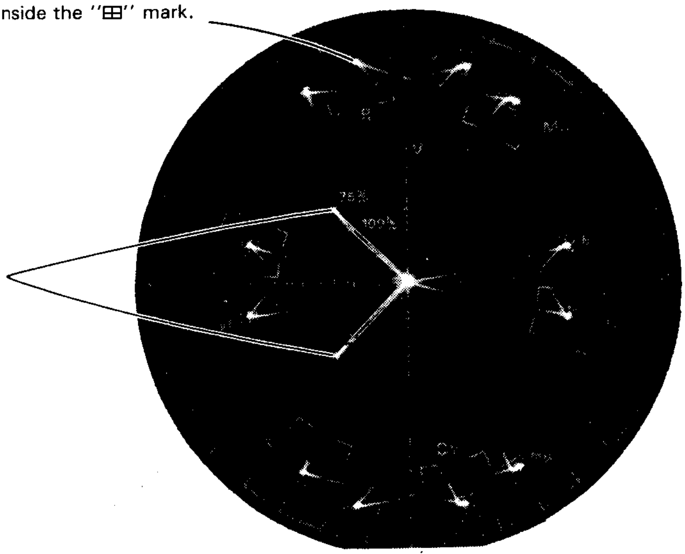
EN-39 board (component side)

3-5-4. Color vector adjustment

Equipment: Vectorscope
To be extended: EN-39 board
Preparation: Set the GAIN switch on the vectorscope to 75%.
Adjust ''PHASE'' control on the vectorscope so that the burst spot is set to the 75% axis.
Set the BARS WB switch on the side of camera to BARS.

Adjustment:

1. Adjust ⊘ RV6/EN-39 board so that the burst level is set to the 75% position.
2. Adjust ⊘ RV5/EN-39 board and PHASE control on the vector scope so that the burst spot is located on the burst graticule line.
3. Adjust ⊘ RV4, ⊘ RV7, and ⊘ LV1/EN-39 board so that the beam spots of each color are inside the ''⊞'' mark.
4. Repeat Step 1 through step 4 several times.

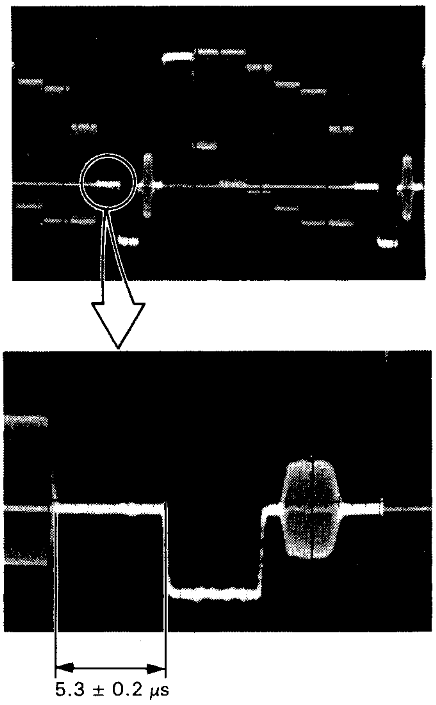


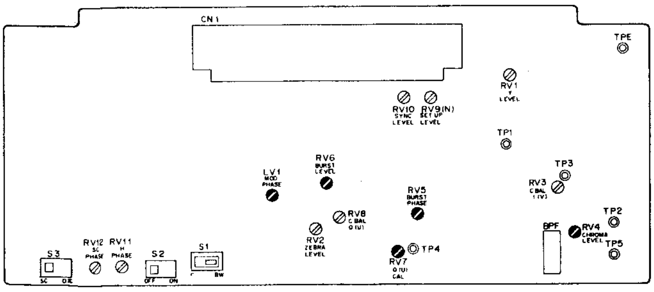
Adjust so that the beam spots of each color (R, YL, G, CY, B, and MG) are inside the ''⊞'' mark.

Burst spot 75%

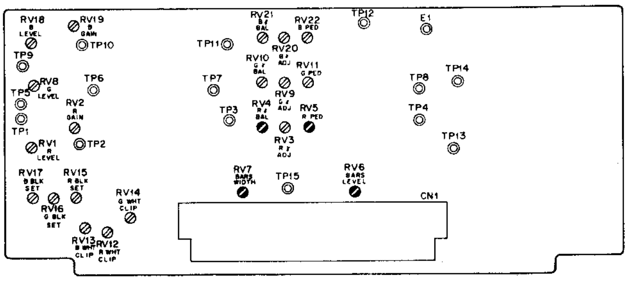
3-5-5. Color bar size adjustment

Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to BARS.
Test point: VIDEO OUT (BNC)
Trigger: HD (A6/extension board)
Adjustment: Adjust ⊘ RV7/PR-71 board so that the black level width of the color bars signal is 5.3 ± 0.2 µs.




CN1
TPE
RV1
Y LEVEL
RV10
SYNC LEVEL
RV9(N)
SET UP LEVEL
TP1
LV1
MOD PHASE
RV6
BURST LEVEL
RV5
BURST PHASE
TP3
RV3
C BAL 1 (V)
RV8
C BAL 0 (U)
RV2
ZEBRA LEVEL
TP2
BPF
RV4
CHROMA LEVEL
TP5
RV7
0 (U) CAL
TP4
S3
SC
OK
RV12
SC PHASE
RV11
H PHASE
S2
OFF
ON
S1
BW

EN-39 board (component side)


RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP5
TP6
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
RV21
B γ BAL
RV22
B PED
RV20
B γ ADJ
TP11
RV10
G γ BAL
RV11
G PED
TP7
RV9
G γ ADJ
TP3
RV4
R γ BAL
RV5
R PED
RV3
R γ ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
CN1
TP12
E1
TP14
TP8
TP4
TP13

PR-71 board (component side)

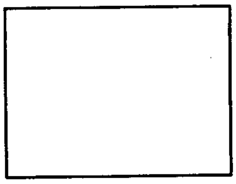
3-6. VIDEO PROCESS SYSTEM (PR-71 BOARD)

3-6-1. B ch video level and temporary gain adjustment

Note: 1. To satisfy F5.6 sensitivity, the video level adjustment must be made in order of lower sensitivity starting from B ch to R ch and then to G ch.
2. Carry out this adjustment through 3-6-3, G ch video level adjustment keeping the iris control set to F5.6.

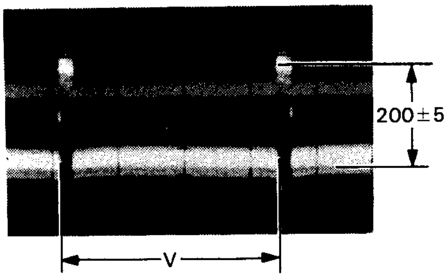
Object: White pattern (pattern box "AUTO MODE")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K.
Set the iris control to F5.6
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

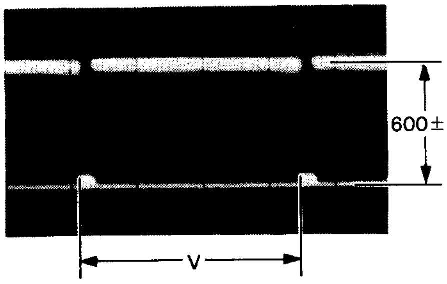


Monitor screen

2. Adjust ⊘ RV18/PR-71 board so that the video level at TP-10 on the PR-71 board is 200 ± 5 mV.



3. Adjust ⊘ RV19 on the PR-71 board so that video level at TP11 on the PR-71 board is 600 ± 10 mV.

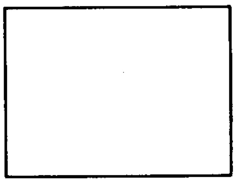


3-6-2. Rch video level and temporary gain adjustment

Note: Be sure to carry out 3-6-1. B ch level adjustment before this adjustment.

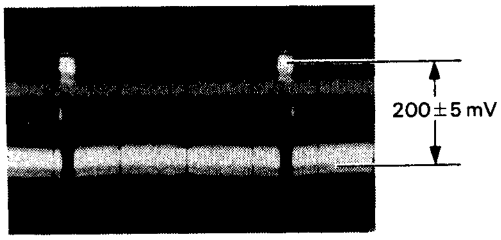
Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP2 (GND;E1)/PR-71 board
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.

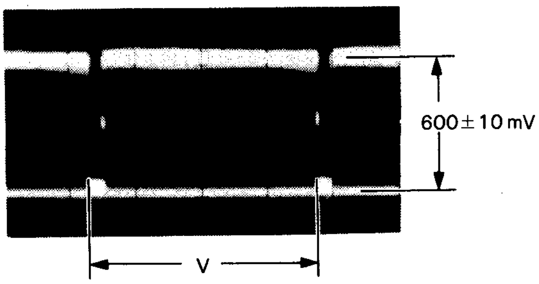


Monitor screen

2. Adjust ⊘ RV1/PR-71 board so that the video level at TP 2/PR-71 board is 200 ± 5 mV.



3. Adjust ⊘ RV2/PR-71 board so that the video level at TP 3/PR-71 board is 600 mV ± 10 mV.



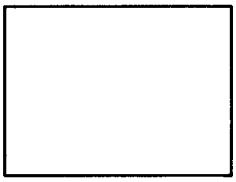
! TP-5 mit Blende auf 250 mV
einstellen

3-6-3. G ch video level adjustment

Note: Be sure to carry out 3-6-2. R ch video level adjustment before this adjustment.

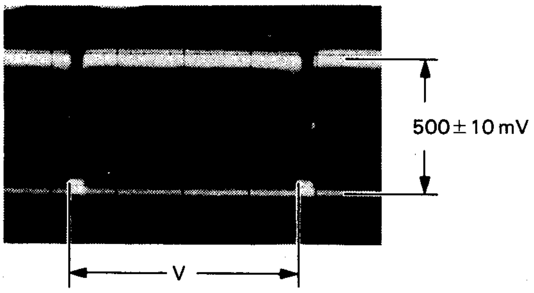
Object: White pattern (pattern box "AUTO Mode")
Equipment; Oscilloscope
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 7 (GND: E1)/PR-71 board
Trigger: VD (A25/extension board)
Adjustment:

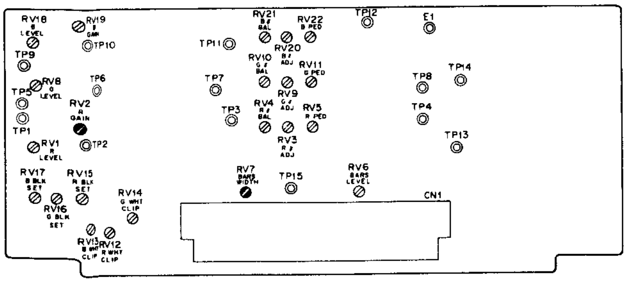
1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.



Monitor screen

2. Adjust ⊘ RV8/PR-71 board so that the video level at TP7/PR-71 board is 500 mV ± 10 mV.



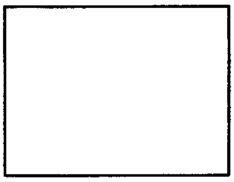

RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP6
TP5
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
TP11
RV21
B ø BAL
RV22
B PED
RV20
B ø ADJ
RV10
G ø BAL
RV11
G PED
TP7
RV9
G ø ADJ
TP3
RV4
R ø BAL
RV5
R PED
RV3
R ø ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
CN1
TP12
E1
TP8
TP14
TP4
TP13

PR-71 board (component side)

3-6-4. IE•APC Adjustment

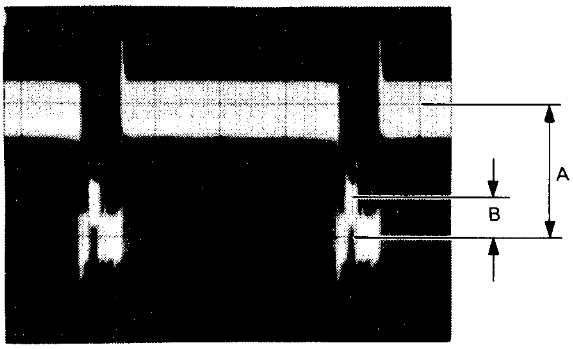
Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 1 (GND: E1)/IE-14 board
Trigger: HD (A22/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

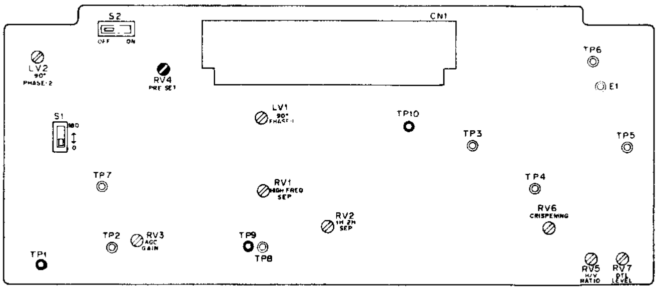


Monitor screen

2. Connect TP 9 to TP 10 (−5 V) on the IE-14 board.
3. Adjust ⊘ RV 4/IE-14 board so that the ratio of "A" level to "B" level is 5 to 1.



$\frac{B}{A} = \cancel{\frac{1}{5}} = \frac{1}{3}$

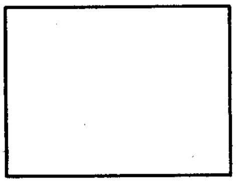

S2
OFF
ON
CN1
LV2
90°
PHASE·2
RV4
PRE SET
TP6
E1
S1
180
0
LV1
90°
PHASE·1
TP10
TP3
TP5
TP7
RV1
HIGH FREQ SEP
TP4
RV6
CRISPENING
RV2
1H 2H SEP
TP2
RV3
AGC GAIN
TP9
TP8
TP1
RV5
H/V RATIO
RV7
DTL LEVEL

IE-14 board (component side)

3-6-5. IE•1H/2H SET adjustment

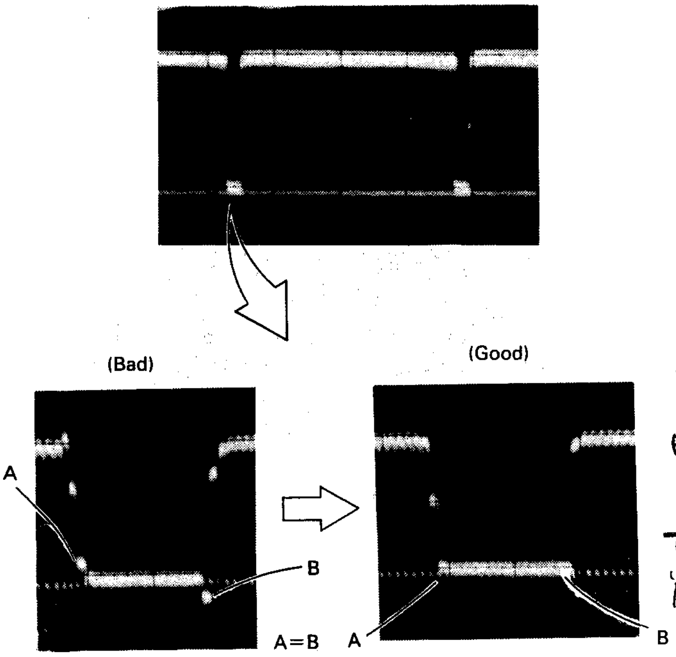
Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: TP 2/IE-14 board (GND: E1/PR-71 board)
Trigger: VD (A25/extension board)
Adjustment:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust ⊘ RV 2/IE-14 board so that the left and right sides of the V BLKG are equal.

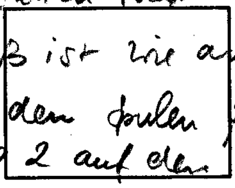


3-6-6. IE•AGC gain adjustment

Object: White pattern (pattern box "AUTO Mode")
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the iris control to F5.6
Test point: B15 (GND: A1)/extension board
Trigger: VD (A25/extension board)
Adjustment:

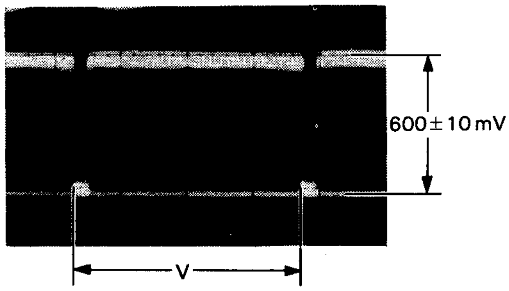
1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the monitor.

AGC so einstellen, daß am TP1 der Pegel so groß ist wie am Eingang IE, dann mit den Spulen für 90° den Pegel an TP 2 auf den gleichen Pegel bringe



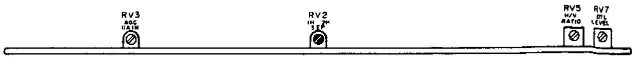
Monitor screen

2. Adjust the ⊘ RV3/IE-14 board so that the video level at B15/extension board is 600 mV ± 10 mV.



~~nach Ausgang kontrollieren ob sich der Pegel ändert bei max V-DTL on!~~

~~Auch~~ darauf achten, daß kein AGC-Pulse im 1H Signal ist! an TP 1

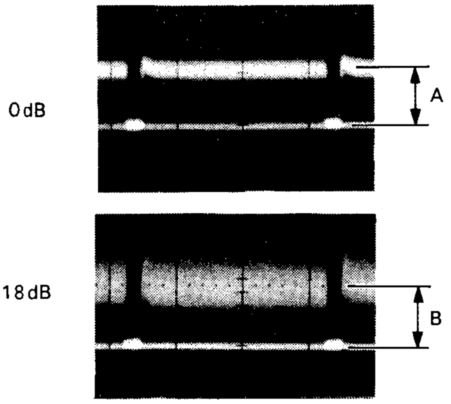


IE-14 board (panel side)

3-6-7. Black set and pedestal adjustments

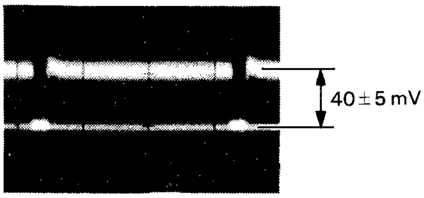
Lens iris: Close "C"
Equipment: Oscilloscope, Vectorscope (MAX GAIN)
To be extended: PR-71 board
Test point: TP 8 (GND: E1) PR71 board (Connect a 10 K ohm resistor between the oscilloscope probe and TP 8)
Trigger: VD (A25/extension board)
Adjustment:

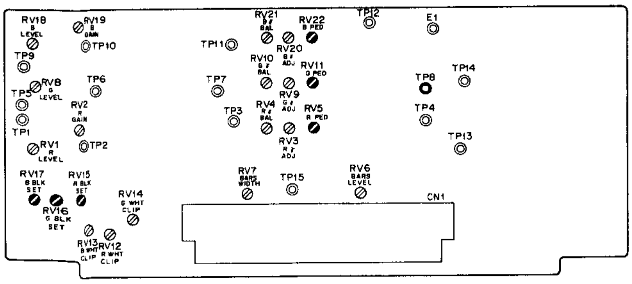
1. Adjust ⊘ RV16/PR-71 board so that pedestal level does not change when the GAIN switch on the side of the camera is switched over from 0 dB to 18 dB.



A=B

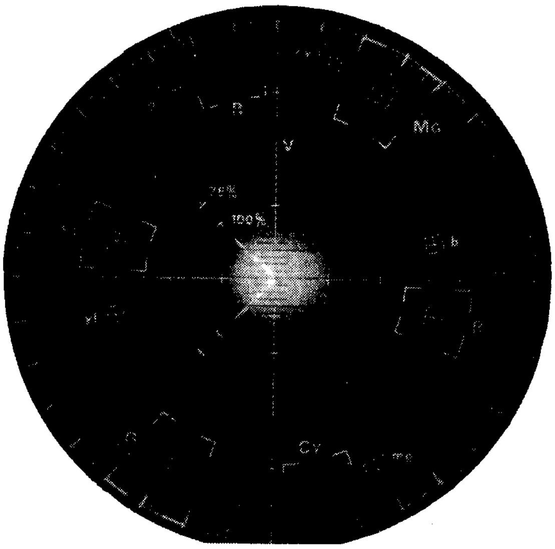
2. Set the GAIN switch on the side of the camera to 0 dB.
3. Adjust ⊘ RV11/PR-71 board so that the pedestal level is 40 ± 5 mV.



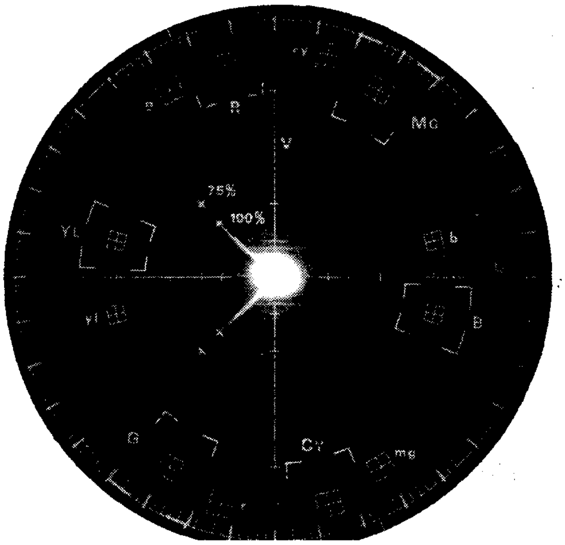

RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP5
TP6
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
TP11
TP7
TP3
RV21
B γ BAL
RV22
B PED
RV20
B γ ADJ
RV10
G γ BAL
RV11
G PED
RV9
G γ ADJ
RV4
R γ BAL
RV5
R PED
RV3
R γ ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
TP12
E1
TP8
TP14
TP4
TP13
CN1

PR-71 board (component side)

4. Set the GAIN switch on the side of the camera to 18 dB.
5. Adjust ⊘ RV15 ⊘ RV17 on the PR-71 board so that the beam spot is in the center of the vectorscope.



6. Set the GAIN switch on the side of the camera to 0 dB.
7. Adjust ⊘ RV5 and ⊘ RV22/PR-71 board so that the beam spot is in the center of vectorscope.

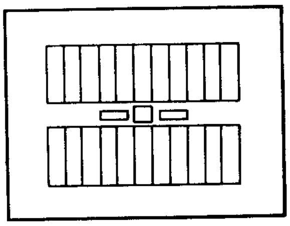


8. Repeat step 4 through step 7 several times.
9. Set the GAIN switch on the side of the camera to 0 dB.

3-6-8. G ch gamma balance and gamma set adjustment

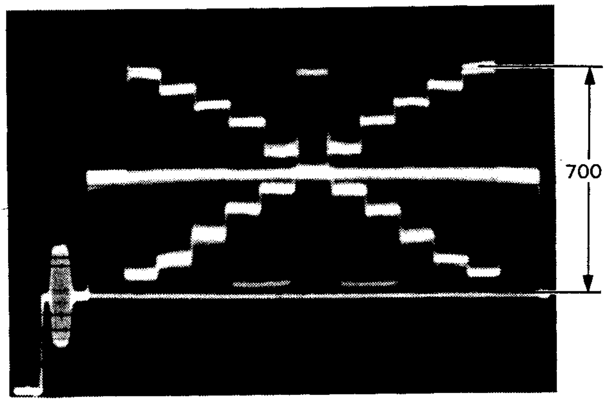
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Test point: TP 8 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.

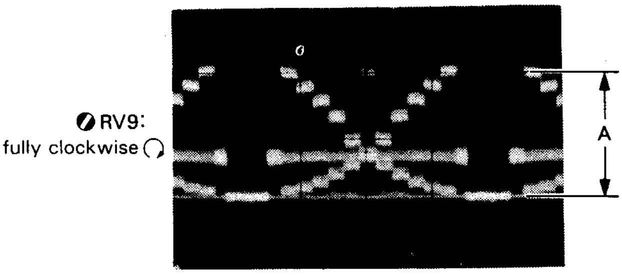


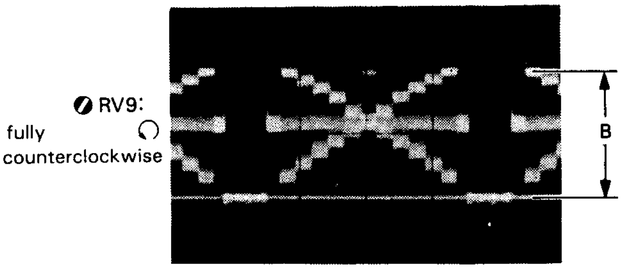
Monitor screen

2. Adjust the iris control so that the video level is 700 ± 15 mV on the waveform monitor (F4 - 5.6).



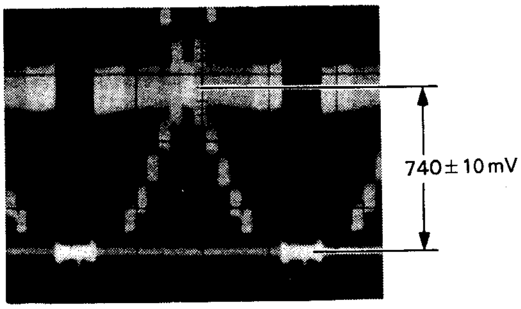
3. Adjust ⊘ RV10/PR-71 board so that the white level of the video signal does not change when ⊘ RV9/PR-71 board is turned either fully counterclockwise or fully clockwise.

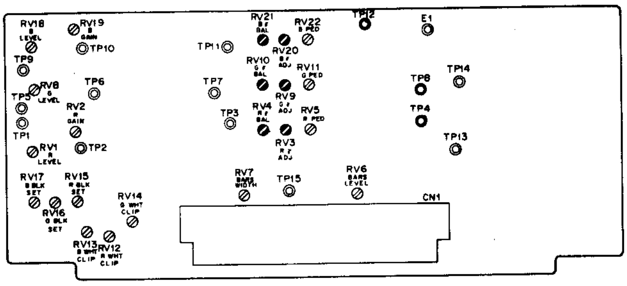




A=B

4. Adjust ⊘ RV 9/PR-71 board so that the crosspoint level of the video signal is 740 mV ± 10 mV.



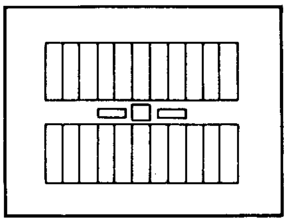

RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP6
TP5
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
TP11
RV21
B γ BAL
RV22
B PED
RV20
B γ ADJ
RV10
G γ BAL
RV11
G PED
TP7
RV9
G γ ADJ
TP3
RV4
R γ BAL
RV5
R PED
RV3
R γ ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
CN1
TP12
E1
TP8
TP14
TP4
TP13

PR-71 board (component side)

3-6-9. R ch gamma balance adjustment

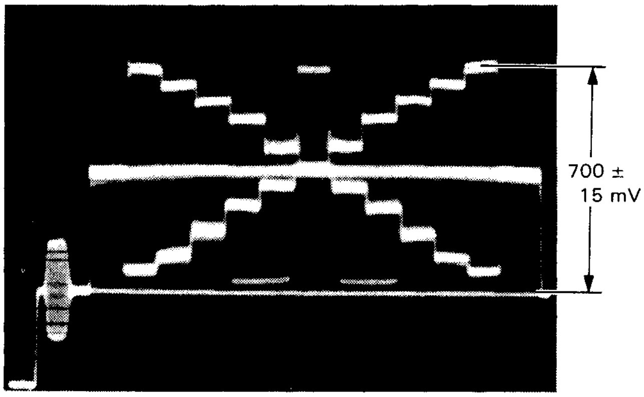
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Test point: TP 4 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.

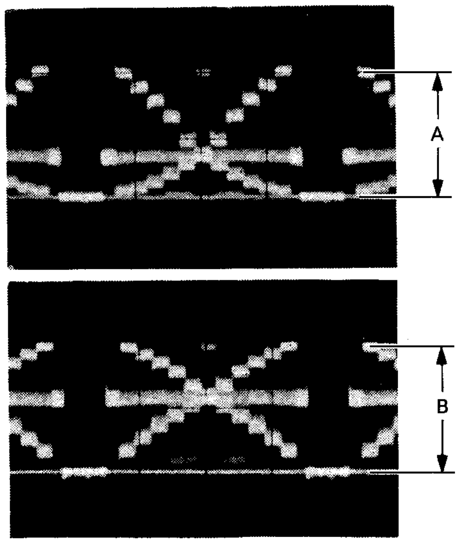


Monitor screen

2. Adjust the lens iris control so that the white level is 700 ± 15 mV on the waveform monitor.



3. Adjust ⊘ RV4/PR-71 board so that the white level of the video signal at TP 4/PR-71 board does not change when ⊘ RV3/PR-71 board is turned either fully counterclockwise or fully clockwise.



⊘ RV3: fully clockwise ↻

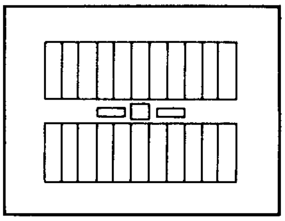
⊘ RV3: fully counterclockwise ↺

A=B

3-6-10. B ch gamma balance adjustment

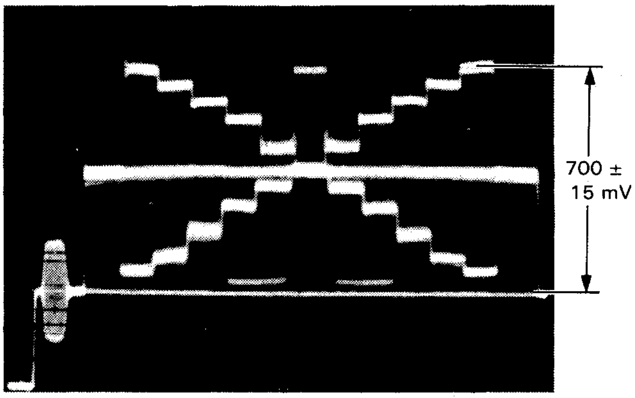
Object: Grayscale chart
Equipment: Oscilloscope
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Test point: TP 12 (GND: E1)/PR-71 board
Trigger: HD (A6/extension board)
Adjustment:

1. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.

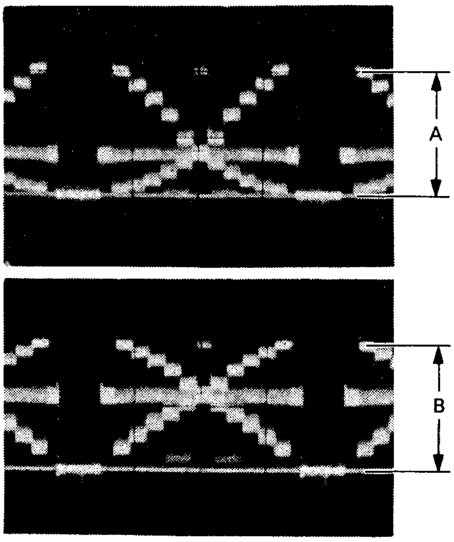


Monitor screen

2. Adjust the iris control so that the video level is 100 IRE on the waveform monitor.



3. Adjust ⊘ RV21/PR-71 board so that the white level of the video signal at TP12/PR-71 board does not change when ⊘ RV20/PR-71 board is turned either fully counterclockwise or fully clockwise.



⊘ RV20: fully clockwise ↻

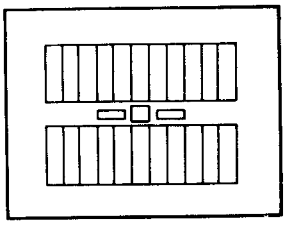
⊘ RV20: fully counterclockwise ↺

A=B

3-6-11. R/B ch gamma set and preset adjustment

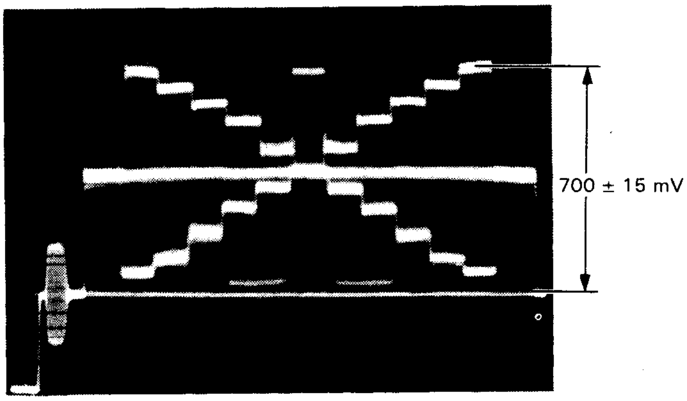
Object: Grayscale chart
Equipment: Waveform monitor, Vectorscope (MAX GAIN)
To be extended: PR-71 board
Adjustment:

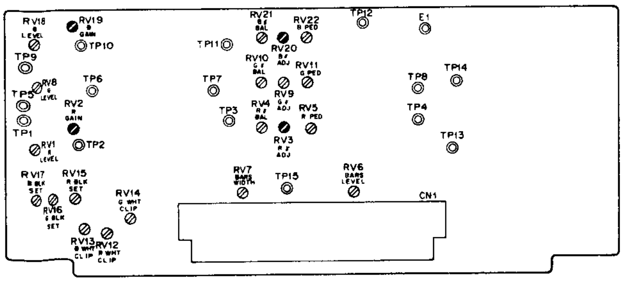
1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust the iris control so that the video level is 700 ± 15 mV on the waveform monitor.

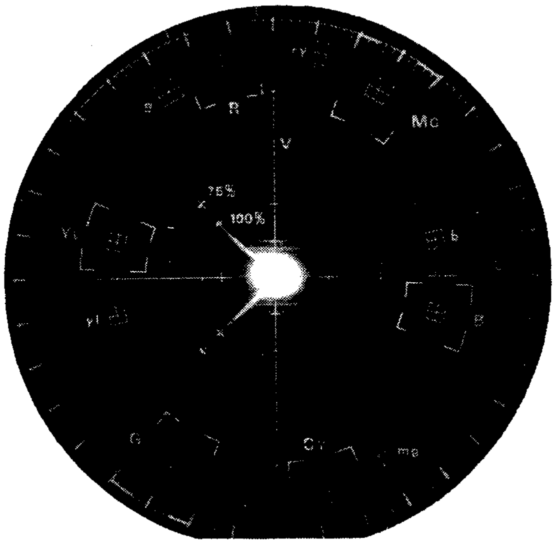



RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP6
TP5
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
RV21
Bγ BAL
RV22
B PED
TP12
E1
TP11
RV20
Bγ ADJ
RV10
Gγ BAL
RV11
G PED
TP7
RV9
Gγ ADJ
TP3
RV4
Rγ BAL
RV5
R PED
RV3
Rγ ADJ
TP8
TP14
TP4
TP13
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
CN1

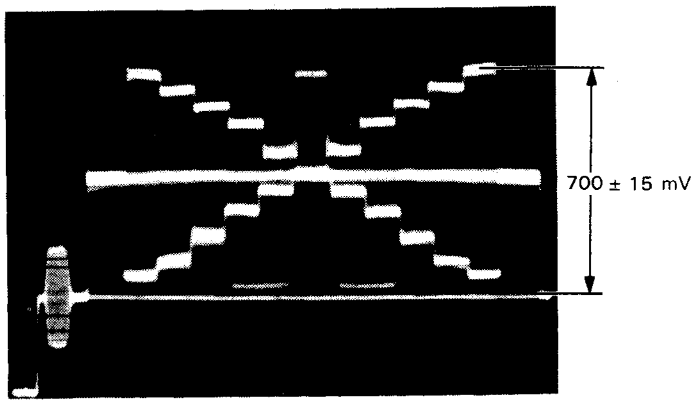
PR-71 board (component side)

3. ⊘ RV 2 (R GAIN)
   ⊘ RV 19 (B GAIN)
   ⊘ RV 3 (Rγ ADJ)
   ⊘ RV 20 (Bγ ADJ)
   } /PR-71 board

   Alternately adjust the above four controls several times so that the beam spot is in the center of vectorscope.


R
Mg
Yl
B
G
Cy
75%
100%

4. After the adjustment, the following specifications must be satisfied.
   If not, perform from 3-6-1. B ch video level adjustment once more.

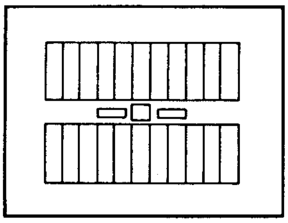


3-6-12. White clip adjustment

Object: Grayscale chart
Equipment: Waveform monitor
To be extended: PR-71 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Set the GAIN switch to 0 dB

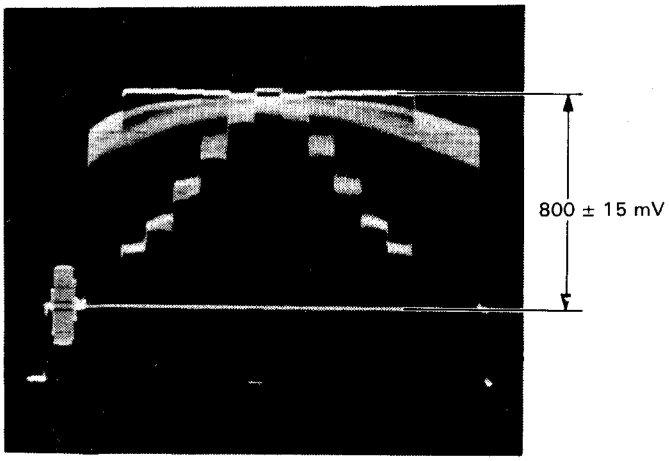
Adjustment:

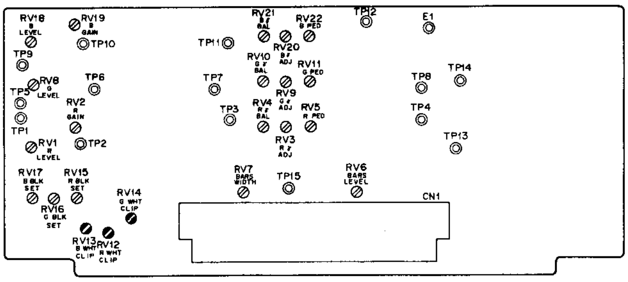
1. Adjust the zoom control so that grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Set the iris control to OPEN.
3. Adjust ⊘ RV12 and ⊘ RV13/PR-71 board several times so that the carrier leakage of the white peak level is minimized.
4. Adjust ⊘ RV14/PR-71 board so that the white peak level is 800 ± 15 mV on the waveform monitor.




RV18
B LEVEL
RV19
B GAIN
TP10
TP9
RV8
G LEVEL
TP6
TP5
RV2
R GAIN
TP1
RV1
R LEVEL
TP2
RV17
B BLK SET
RV15
R BLK SET
RV16
G BLK SET
RV14
G WHT CLIP
RV13
B WHT CLIP
RV12
R WHT CLIP
TP11
RV21
B γ BAL
RV22
B PED
RV20
B γ ADJ
RV10
G γ BAL
RV11
G PED
TP7
RV9
G γ ADJ
TP3
RV4
R γ BAL
RV5
R PED
RV3
R γ ADJ
RV7
BARS WIDTH
TP15
RV6
BARS LEVEL
TP12
E1
TP14
TP8
TP4
TP13
CN1

PR-71 board (component side)

3-7. IMAGE ENHANCER SYSTEM ADJUSTMENT

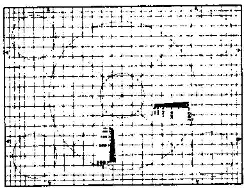
Note: It is not necessary to adjust ⊘ RV1, ⊘ LV1 and ⊘ LV2 unless these controls are replaced.
Do not touch these controls.

3-7-1. Crispening adjustment

Object: Registration chart
Equipment: Oscilloscope
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Rotate ⊘ RV5 (H.V. RATIO)/IE-14 board fully clockwise
Test point: TP5 (GND: E1)/IE-14 board
Trigger: HD (A22/extension board)

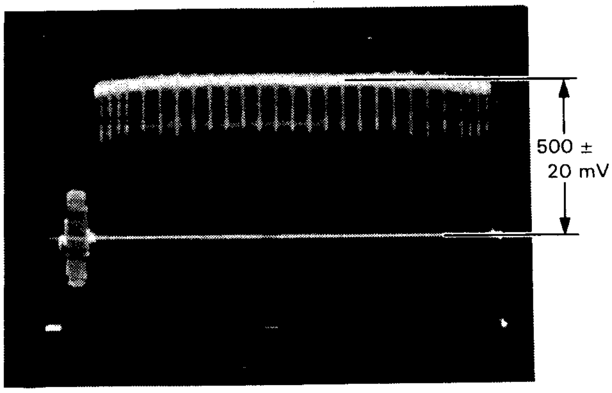
Adjustment:

1. Adjust the zoom control so that the registration chart frame touches the underscanned picture frame on the monitor.

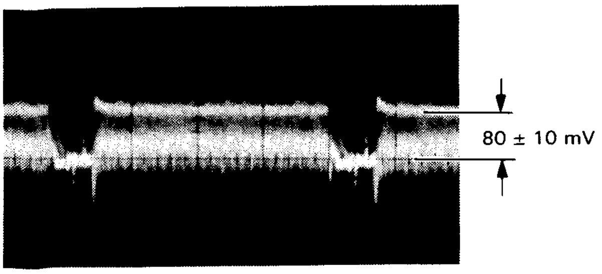


Monitor screen

2. Adjust the iris control so that the video level is 500 ± 20 mV on the waveform monitor.



3. Adjust ⊘ RV6/IE-14 board so that the level at TP5/IE-14 board is 80 ± 10 mV. Connection of a 10 K ohm resistor between the oscilloscope probe and TP5 makes it easier to detect noise.

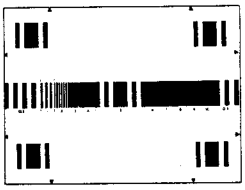


3-7-2. H.V.RATIO adjustment

Object: Burst chart
Equipment: B/W monitor screen
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Rotate ⊘ RV7 (DTL LEVEL)/IE-14 board fully clockwise

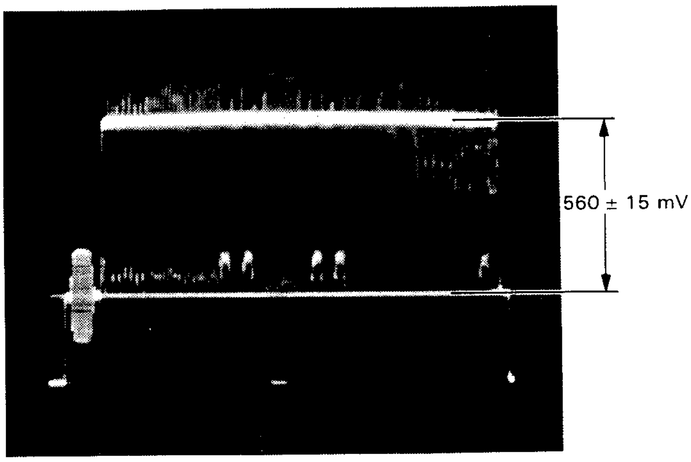
Adjustment:

1. Set the zoom control at TELE and shoot a burst chart.

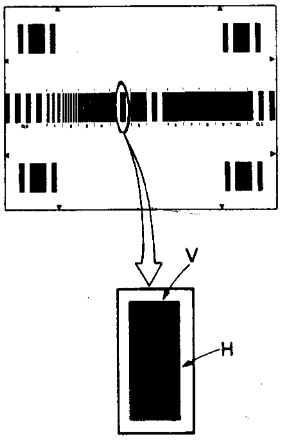


Monitor screen

2. Adjust the iris control so that the video level is 560 ± 15 mV on the waveform monitor.



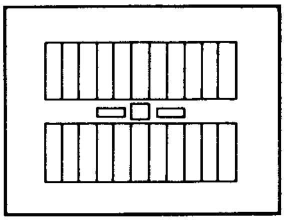
3. Adjust ⊘ RV5/IE-14 board so that the overlapping detail ratio of H to V on the 0.5 MHz section of the burst chart is equal on the monitor.



3-7-3. Detail level adjustment

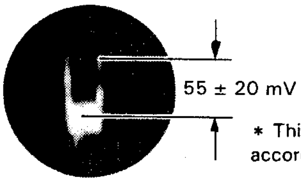
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: IE-14 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ⊘ RV7/IE-14 board
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.

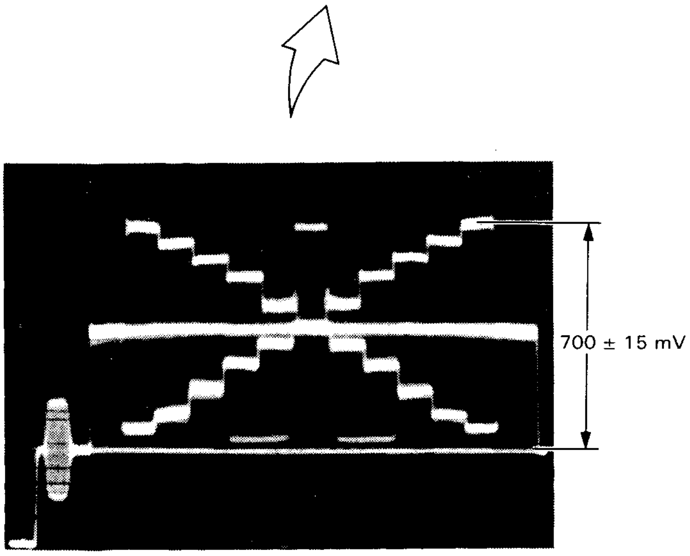


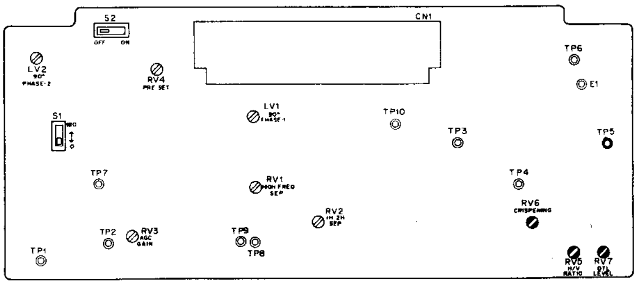
Monitor screen

2. Adjust the iris control so that the video output level is 700 ± 15 mV on the waveform monitor.
3. Adjust ⊘ RV7/IE-14 board so that the smaller detail level at both ends of the white level is 55 ± 20 mV.

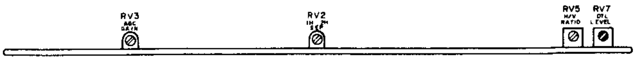


* This value should be changed according to the users' requirements.




S2
OFF ON
CN1
LV2
90°
PHASE·2
RV4
PRE SET
TP6
E1
LV1
90°
PHASE·1
TP10
S1
180
0
TP3
TP5
TP7
RV1
HIGH FREQ
SEP
TP4
RV6
CRISPENING
RV2
1H 2H
SEP
TP2
RV3
AGC
GAIN
TP9
TP8
TP1
RV5
H/V
RATIO
RV7
DTL
LEVEL

IE-14 board (component side)


RV3
AGC
GAIN
RV2
1H 2H
SEP
RV5
H/V
RATIO
RV7
DTL
LEVEL

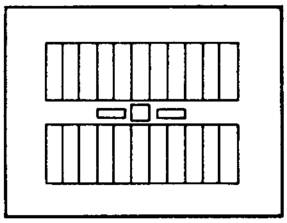
IE-14 board (panel side)

3-8. AUTO SYSTEM (AT-39 BOARD)

3-8-1. LOW LIGHT adjustment

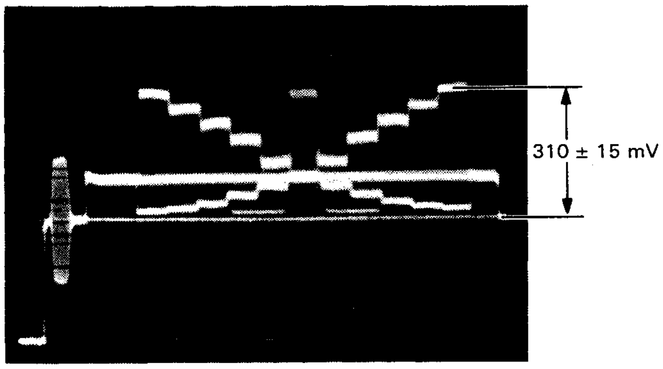
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ⊘ RV1/AT-39 board
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust the lens iris control so that the white level of the video signal is 310 ± 15 mV.

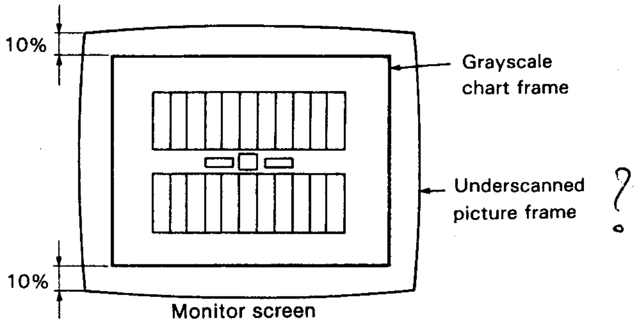


3. Rotate ⊘ RV1/AT-39 board counter clockwise from the rightmose position. Until the point where the "LOW LIGHT" indication and the "LOW LIGHT" lamp light up on the viewfinder screen.
4. Open the iris control gradually and confirm that the white level of the video signal is 295 to 335 mV when the "LOW LIGHT" indication disappears. When the specification is not satisfied, repeat step 3.

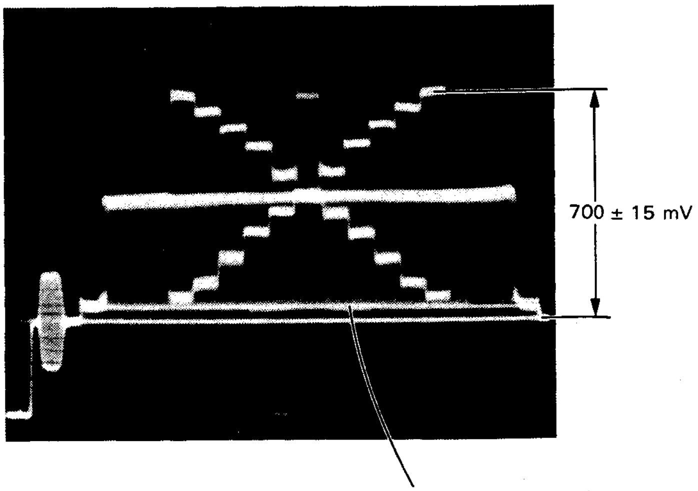
3-8-2. ABL adjustment

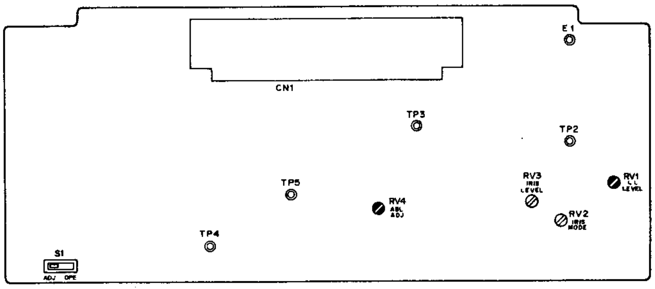
Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K
Adjustment point: ⊘ RV4/AT-39 board

1. Adjust the zoom control so that the grayscale chart frame is underscanned 10% from the underscanned frame on the monitor.


10%
Grayscale chart frame
Underscanned picture frame
?
10%
Monitor screen

2. Adjust the iris control so that the white level of the video signal is 700 ± 15 mV.
3. Adjust ⊘ RV4/AT-39 board so that the black level of the video signal does not change when charging over the ABL switch to ON or OFF.


700 ± 15 mV
The black level must not change.


E1
CN1
TP3
TP2
TP5
RV4 ABL ADJ
RV3 IRIS LEVEL
RV1 L.L LEVEL
RV2 IRIS MODE
TP4
S1
ADJ OFF

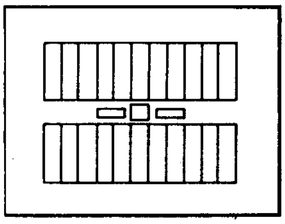
AT-39 board (component side)

3-8-3. Auto iris adjustment

Object: Grayscale chart
Equipment: Waveform monitor
To be extended: AT-39 board
Preparation: Set the BARS WB switch on the side of the camera to 3200°K.
Set the iris control to AUTO.
Rotate ⊘ RV2 (IRIS MODE)/AT-39 board fully clockwise ↻.

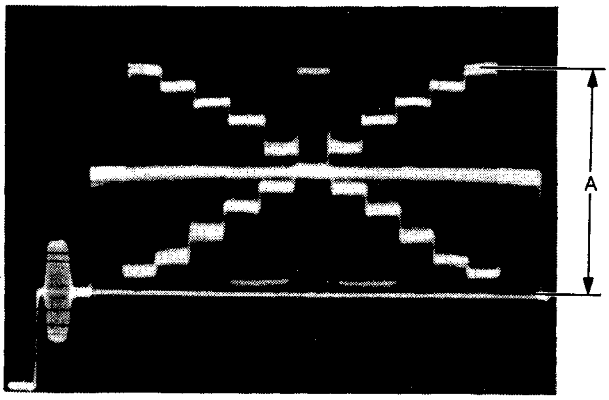
Adjustment:

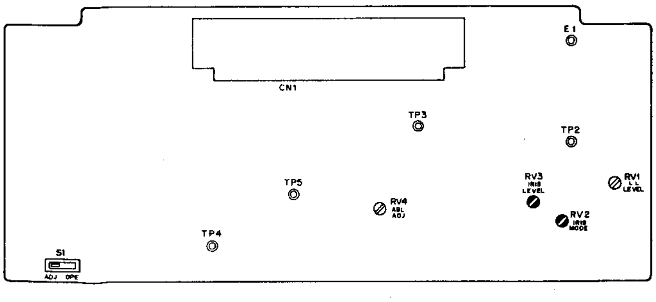
1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust ⊘ RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is 700 ± 15 mV.
3. Adjust ⊘ RV2 (IRIS MODE)/AT-39 board so that the white peak level "A" is 760 ± 15 mV.
4. Adjust ⊘ RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is 700 ± 15 mV.



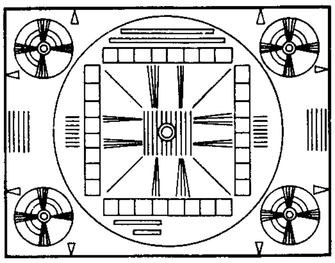

E1
CN1
TP3
TP2
RV3 IRIS LEVEL
RV1 L.L LEVEL
TP5
RV4 ABL ADJ
RV2 IRIS MODE
TP4
S1
ADJ OPE

AT-39 board (component side)

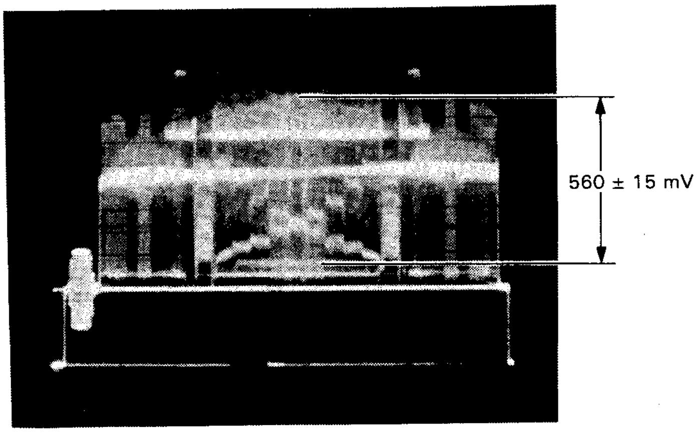
3-9. RESOLUSION ADJUSTMENT (TG-18 BOARD)

Object: Resolution chart
Equipment: Waveform monitor, Black and White monitor
Preparation: Set the BARS WB switch on the side of the camera to 3200° K
Adjustment:

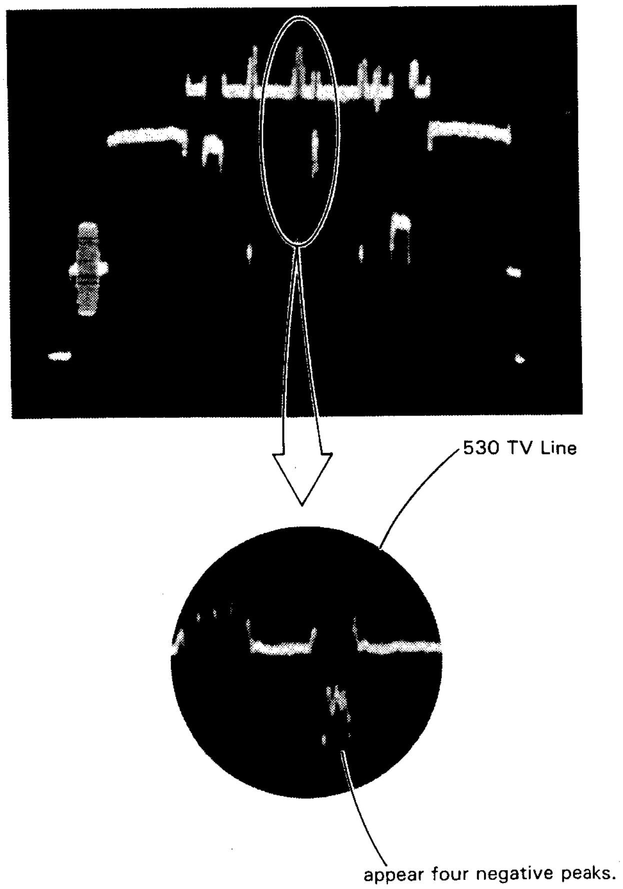
1. Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.

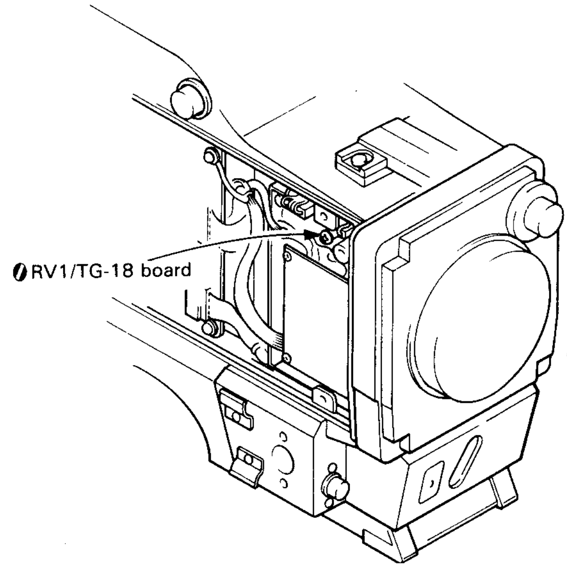


2. Adjust the iris control so that the white level of the video signal is 560 ± 15 mV.



3. Adjust "LINE SELECTOR" of the waveform monitor so that a selected line is overlapped with 530-line of the resolution chart on the waveform monitor.
4. Adjust the focus control so that the amplitude portion "A" of the video signal is maximized.
5. Adjust ⊘ RV1/TG-18 board so as to appear four negative peaks at the portion A of the resolution chart.





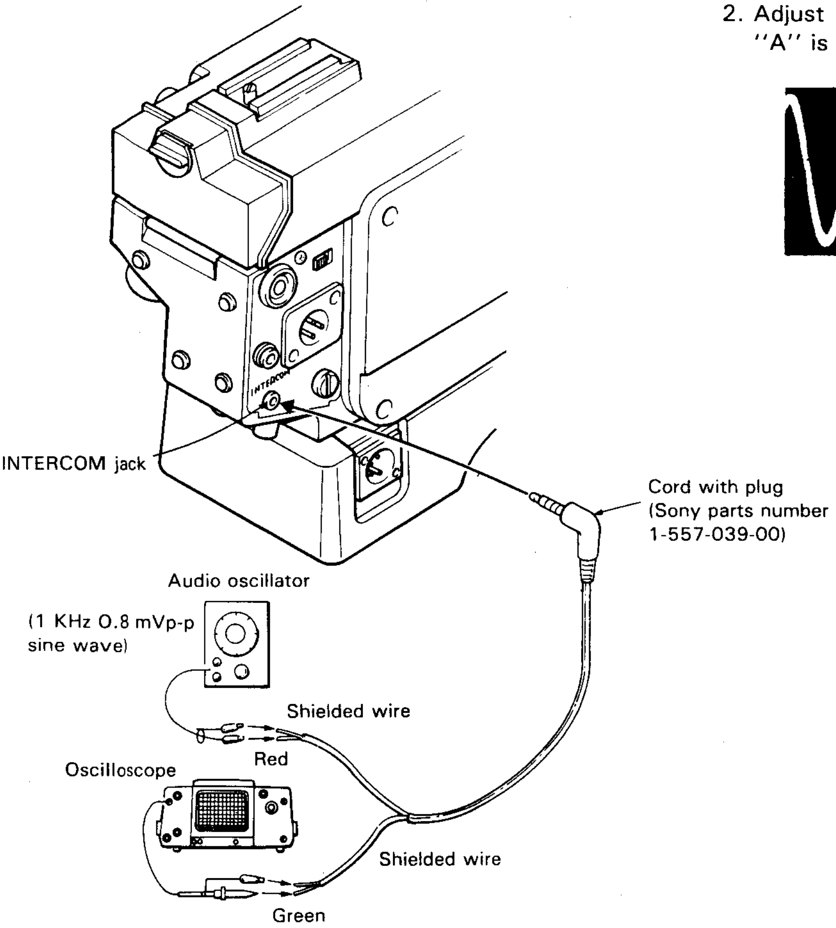
Mit hochfrequenter Vorlage auf min.
Aliasingeffekt einstellen (Wenig Regelbereich)
(Fast Rechtsanschlag)

C1 auf PA-40 R/B auf min.
sichtbare Pixelausfälle einstellen!

3-10. INTERCOM SYSTEM (SG-37 BOARD)

3-10-1. SIDE TONE adjustment

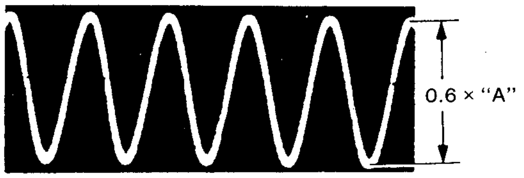
To be extended: SG-37 board
Equipment/Connection:

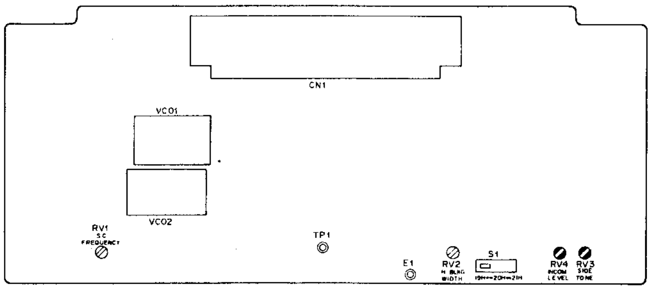

INTERCOM
INTERCOM jack
Cord with plug (Sony parts number 1-557-039-00)
Audio oscillator
(1 KHz 0.8 mVp-p sine wave)
Shielded wire
Red
Oscilloscope
Shielded wire
Green

Preparation: Rotate ⊘ RV4 on the SG-37 board fully clockwise ↻.

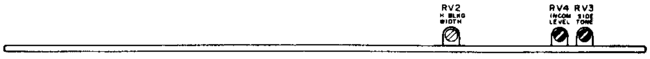
Adjustment point: ⊘ RV3/SG-37 board

1. Measure the output level "A" when turning ⊘ RV3 fully counterclockwise.
2. Adjust ⊘ RV3 clockwise so that 60% of output level "A" is indicated.



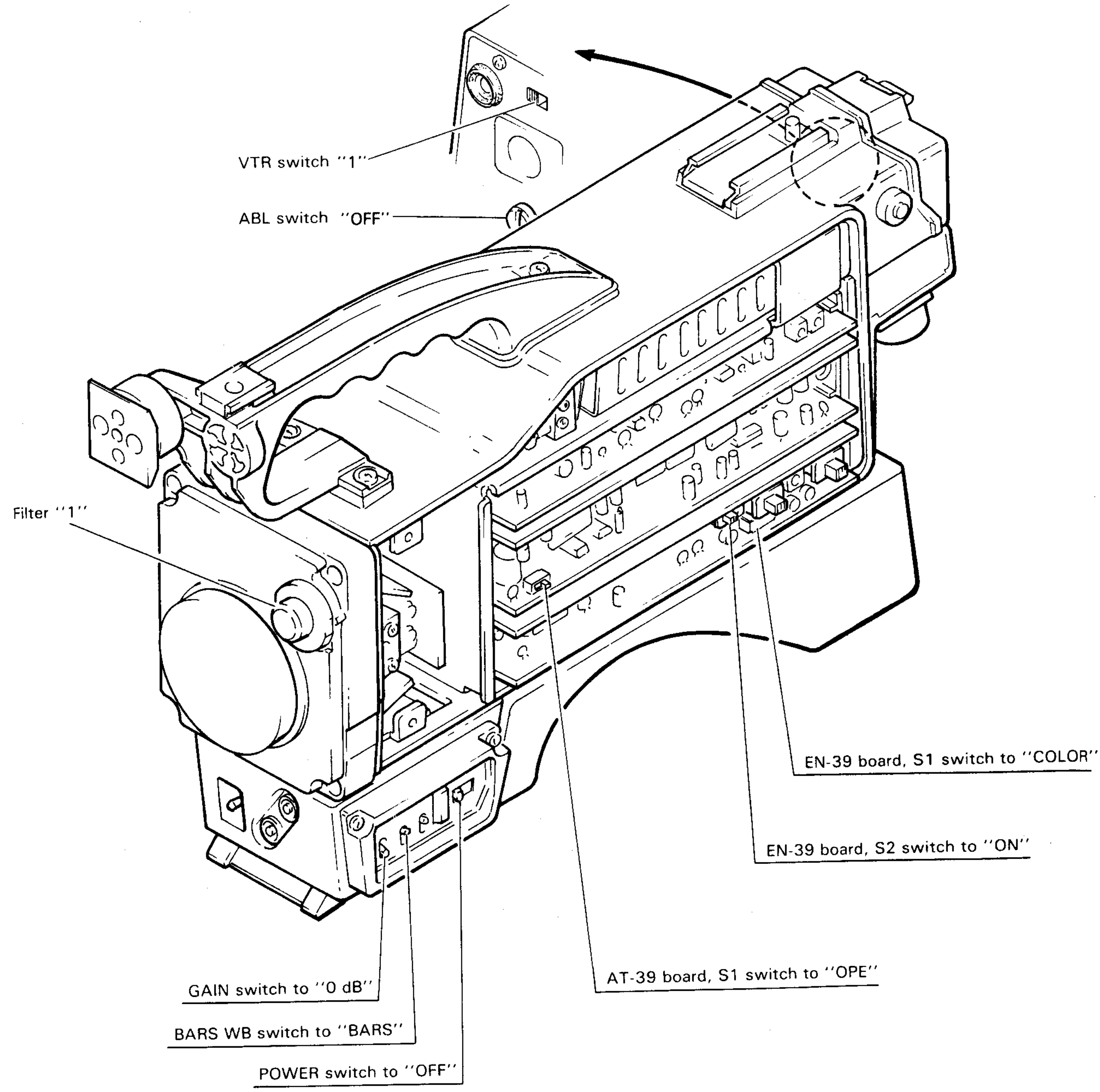

CN1
VCO1
VCO2
RV1
SC FREQUENCY
TP1
E1
RV2
H BLKG WIDTH
S1
19H↔20H↔21H
RV4
INCOM LEVEL
RV3
SIDE TONE

SG-37 board (component side)


RV2
H BLKG WIDTH
RV4
INCOM LEVEL
RV3
SIDE TONE

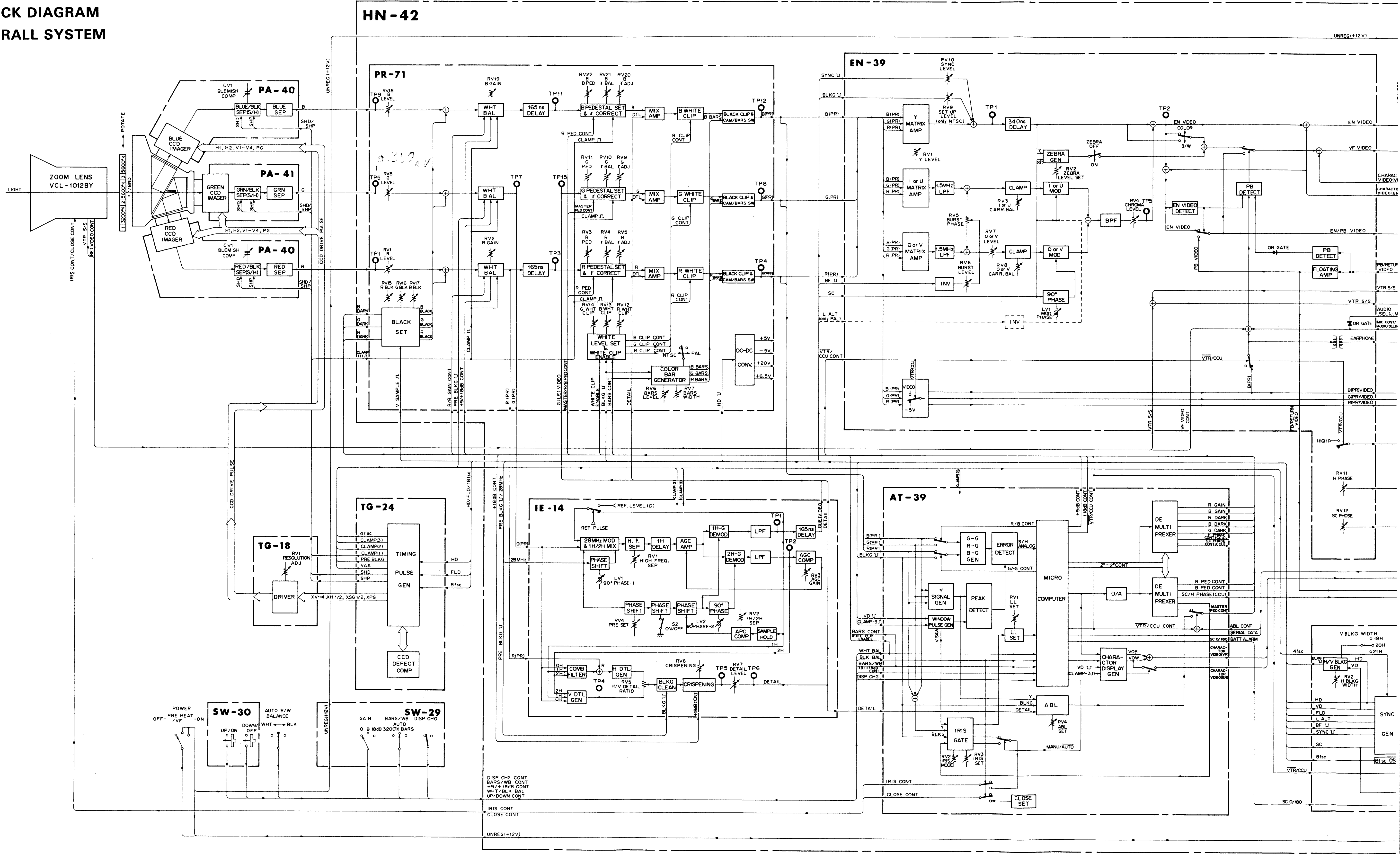
SG-37 board (panel side)

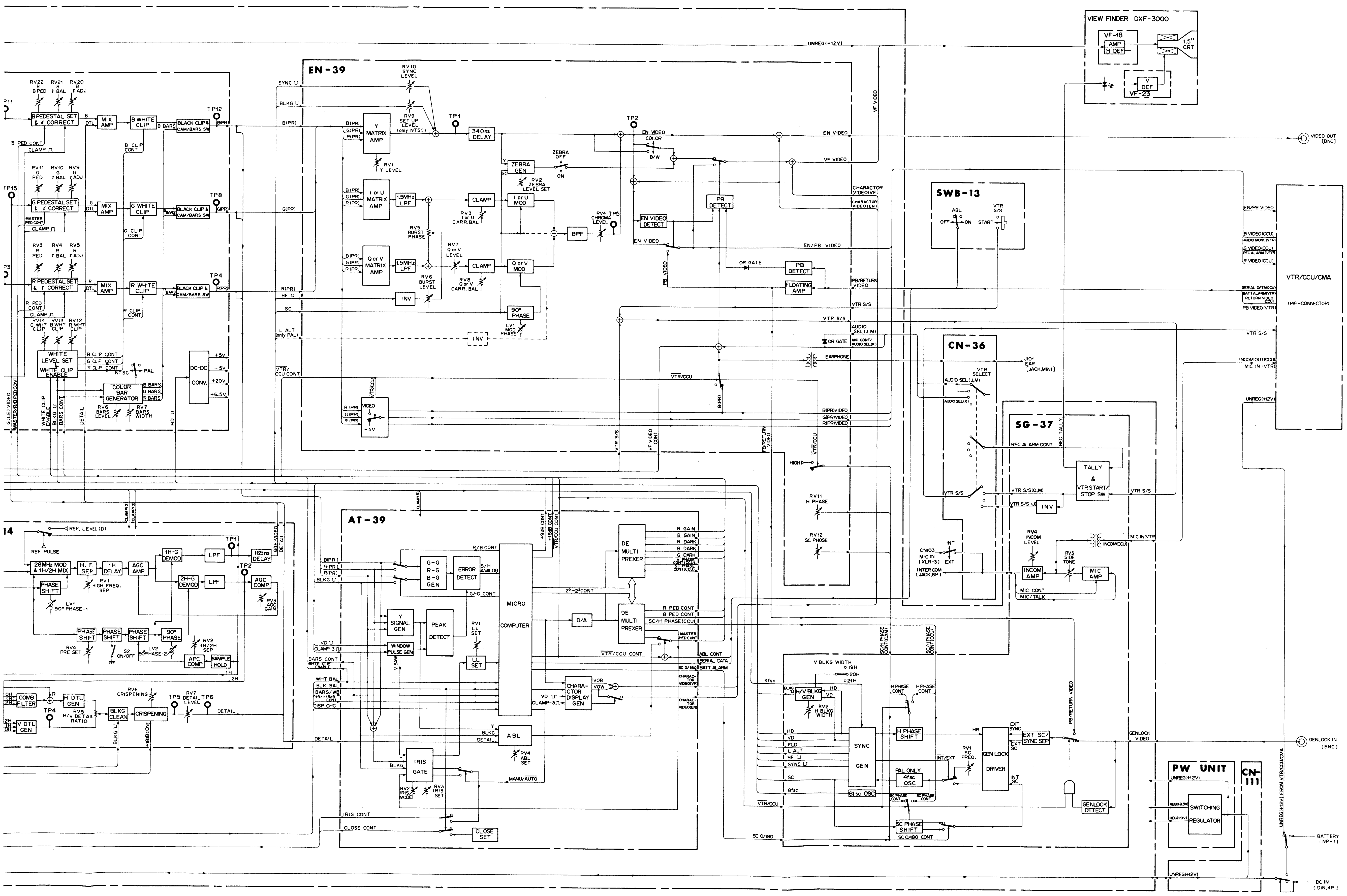
FINAL SWITCH SETTINGS


VTR switch "1"
ABL switch "OFF"
Filter "1"
EN-39 board, S1 switch to "COLOR"
EN-39 board, S2 switch to "ON"
AT-39 board, S1 switch to "OPE"
GAIN switch to "0 dB"
BARS WB switch to "BARS"
POWER switch to "OFF"

SECTION 4
DIAGRAM

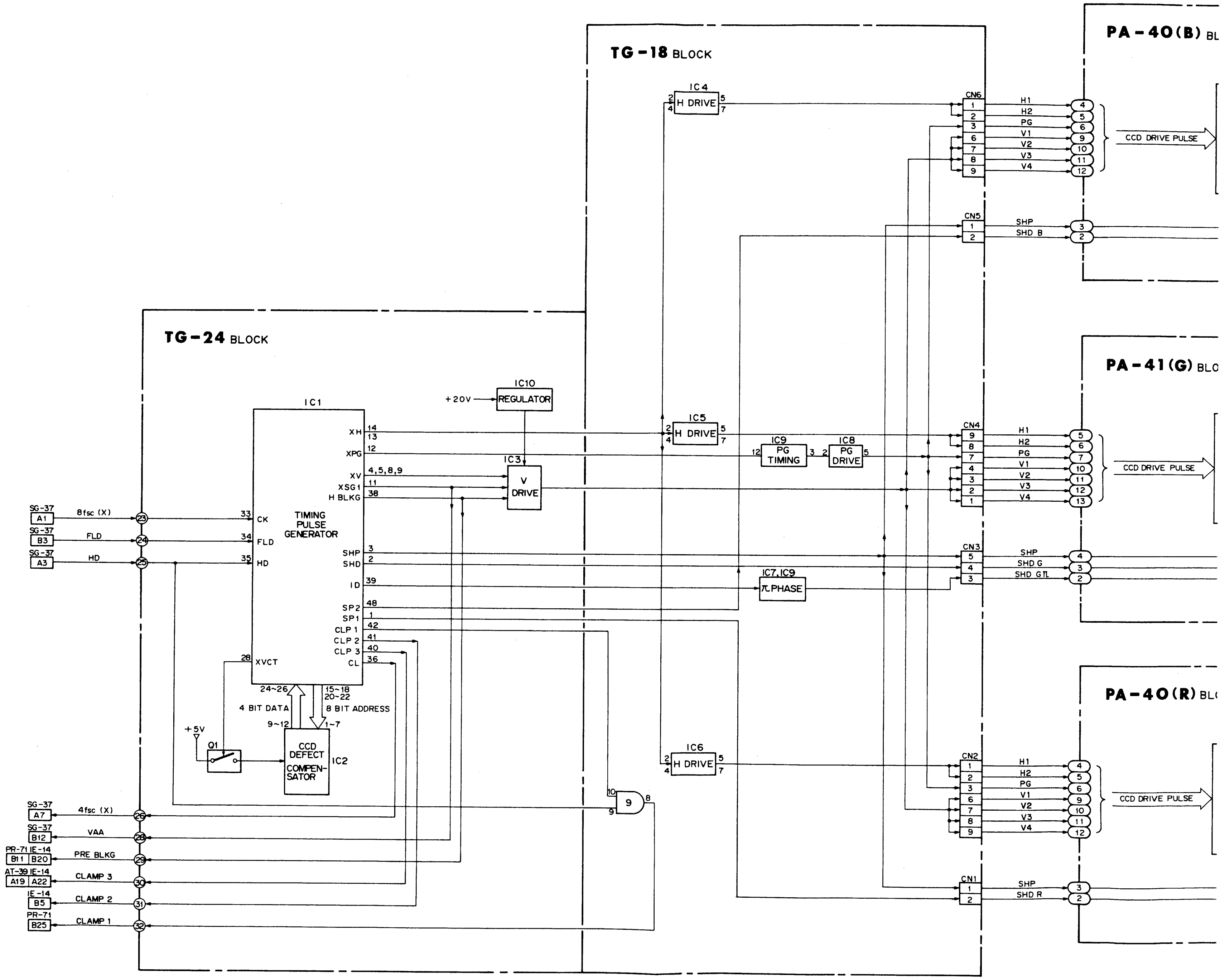
4-1. BLOCK DIAGRAM
OVERALL SYSTEM


HN-42
PR-71
EN-39
PA-40
PA-41
PA-40
BLUE CCD IMAGER
GREEN CCD IMAGER
RED CCD IMAGER
ZOOM LENS VCL-1012BY
LIGHT
ROTATE
BLUE/BLK SEP(S/H)
BLUE SEP
GRN/BLK SEP(S/H)
GRN SEP
RED/BLK SEP(S/H)
RED SEP
CV1 BLEMISH COMP
SHD/SHP
H1, H2, V1~V4, PG
CCD DRIVE PULSE
UNREG(+12V)
IRIS CONT/CLOSE CONT
VTR S/S
RET VIDEO CONT
WHT BAL
165ns DELAY
B PEDESTAL SET & γ CORRECT
G PEDESTAL SET & γ CORRECT
R PEDESTAL SET & γ CORRECT
MIX AMP
B WHITE CLIP
G WHITE CLIP
R WHITE CLIP
BLACK CLIP & CAM/BARS SW
BLACK SET
WHITE LEVEL SET
WHITE CLIP ENABLE
COLOR BAR GENERATOR
DC-DC CONV.
+5V
-5V
+20V
+6.5V
NTSC
PAL
TP1
TP3
TP4
TP5
TP7
TP8
TP9
TP11
TP12
TP15
Y MATRIX AMP
I or U MATRIX AMP
Q or V MATRIX AMP
1.5MHz LPF
CLAMP
I or U MOD
Q or V MOD
90° PHASE
INV
BPF
ZEBRA GEN
340ns DELAY
EN VIDEO DETECT
PB DETECT
FLOATING AMP
OR GATE
SYNC LEVEL
SET UP LEVEL
Y LEVEL
CHROMA LEVEL
EN VIDEO
VF VIDEO
EN/PB VIDEO
VTR S/S
EARPHONE
VTR/CCU
B(PR) VIDEO
G(PR) VIDEO
R(PR) VIDEO
AT-39
G-G R-G B-G GEN
ERROR DETECT
Y SIGNAL GEN
PEAK DETECT
WINDOW PULSE GEN
LL SET
MICRO COMPUTER
D/A
DE MULTI PREXER
CHARACTOR DISPLAY GEN
ABL
IRIS GATE
CLOSE SET
MANU/AUTO
IRIS CONT
CLOSE CONT
R GAIN
B GAIN
R DARK
G DARK
B DARK
R PED CONT
B PED CONT
TG-24
TIMING PULSE GEN
CCD DEFECT COMP
4fsc
CLAMP(3)
CLAMP(2)
CLAMP(1)
PRE BLKG
VAA
SHD
SHP
HD
FLD
8fsc
TG-18
RV1 RESOLUTION ADJ
DRIVER
XV1~4, XH1/2, XSG1/2, XPG
IE-14
REF. LEVEL (D)
REF PULSE
28MHz MOD & 1H/2H MIX
H.F. SEP
1H DELAY
AGC AMP
1H-G DEMOD
2H-G DEMOD
LPF
165ns DELAY
AGC COMP
PHASE SHIFT
90° PHASE
APC COMP
SAMPLE HOLD
COMB FILTER
H DTL GEN
V DTL GEN
BLKG CLEAN
CRISPENING
DETAIL
SW-30
POWER
OFF - PRE HEAT /VF - ON
UP/ON
DOWN/OFF
AUTO B/W BALANCE
WHT BLK
SW-29
GAIN
0 9 18dB
BARS/WB 3200K BARS AUTO
DISP CHG
DISP CHG CONT
BARS/WB CONT
+9/+18dB CONT
WHT/BLK BAL
UP/DOWN CONT
SYNC GEN
H/V BLKG GEN
V BLKG WIDTH
SC 0/180

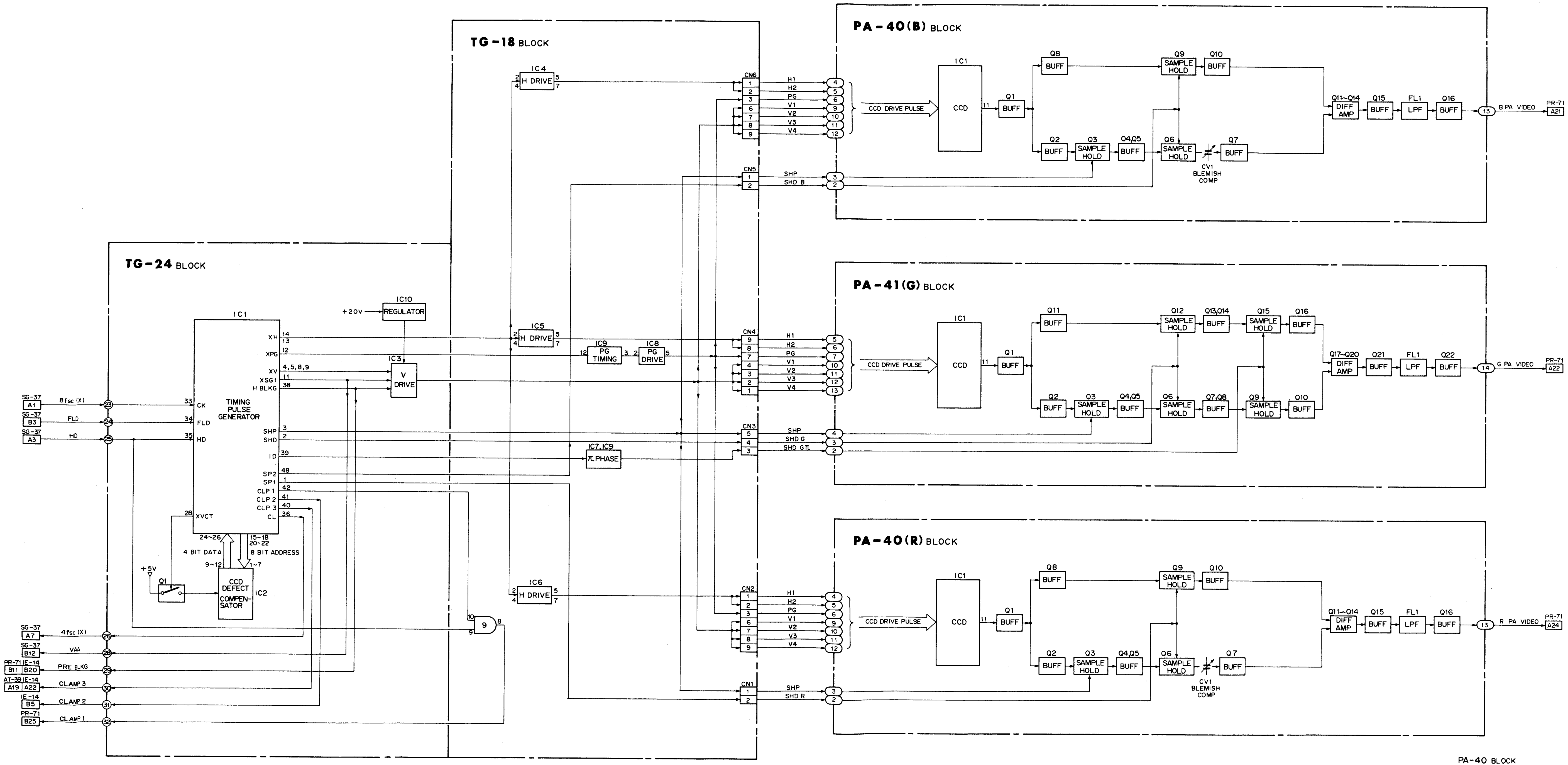

EN-39
AT-39
SWB-13
CN-36
SG-37
PW UNIT
CN-111
VIEW FINDER DXF-3000
VF-18
VF-23
1.5" CRT
VTR/CCU/CMA
(14P-CONNECTOR)
B PEDESTAL SET & γ CORRECT
G PEDESTAL SET & γ CORRECT
R PEDESTAL SET & γ CORRECT
MIX AMP
B WHITE CLIP
G WHITE CLIP
R WHITE CLIP
BLACK CLIP & CAM/BARS SW
WHITE LEVEL SET
WHITE CLIP ENABLE
COLOR BAR GENERATOR
DC-DC CONV
Y MATRIX AMP
I or U MATRIX AMP
Q or V MATRIX AMP
1.5MHz LPF
340ns DELAY
ZEBRA GEN
CLAMP
I or U MOD
Q or V MOD
BPF
INV
90° PHASE
EN VIDEO DETECT
PB DETECT
FLOATING AMP
OR GATE
TP1
TP2
TP4
TP5
TP6
TP8
TP12
TP15
EN VIDEO
VF VIDEO
VIDEO OUT (BNC)
UNREG(+12V)
EARPHONE
J101 EAR (JACK,MINI)
TALLY & VTR START/STOP SW
INCOM AMP
MIC AMP
CN103 MIC IN (XLR-3)
INTER COM (JACK,6P)
G-G R-G B-G GEN
ERROR DETECT
MICRO COMPUTER
DE MULTI PREXER
D/A
Y SIGNAL GEN
WINDOW PULSE GEN
PEAK DETECT
LL SET
CHARACTOR DISPLAY GEN
ABL
IRIS GATE
CLOSE SET
IRIS CONT
CLOSE CONT
H/V BLKG GEN
SYNC GEN
H PHASE SHIFT
4fsc OSC
8fsc OSC
SC PHASE SHIFT
GEN LOCK DRIVER
EXT SC/SYNC SEP
GENLOCK DETECT
GENLOCK IN (BNC)
SWITCHING REGULATOR
BATTERY (NP-1)
DC IN (DIN,4P)
28MHz MOD & 1H/2H MIX
H.F. SEP
1H DELAY
AGC AMP
1H-G DEMOD
2H-G DEMOD
LPF
165ns DELAY
AGC COMP
PHASE SHIFT
90° PHASE
APC COMP
SAMPLE HOLD
COMB FILTER
H DTL GEN
V DTL GEN
BLKG CLEAN
CRISPENING
DETAIL

DXC-3000/P OVERALL BLOCK DIAGRAM

PA-40 BOARD
PA-41 BOARD
TG-18 BOARD
TG-24 BOARD

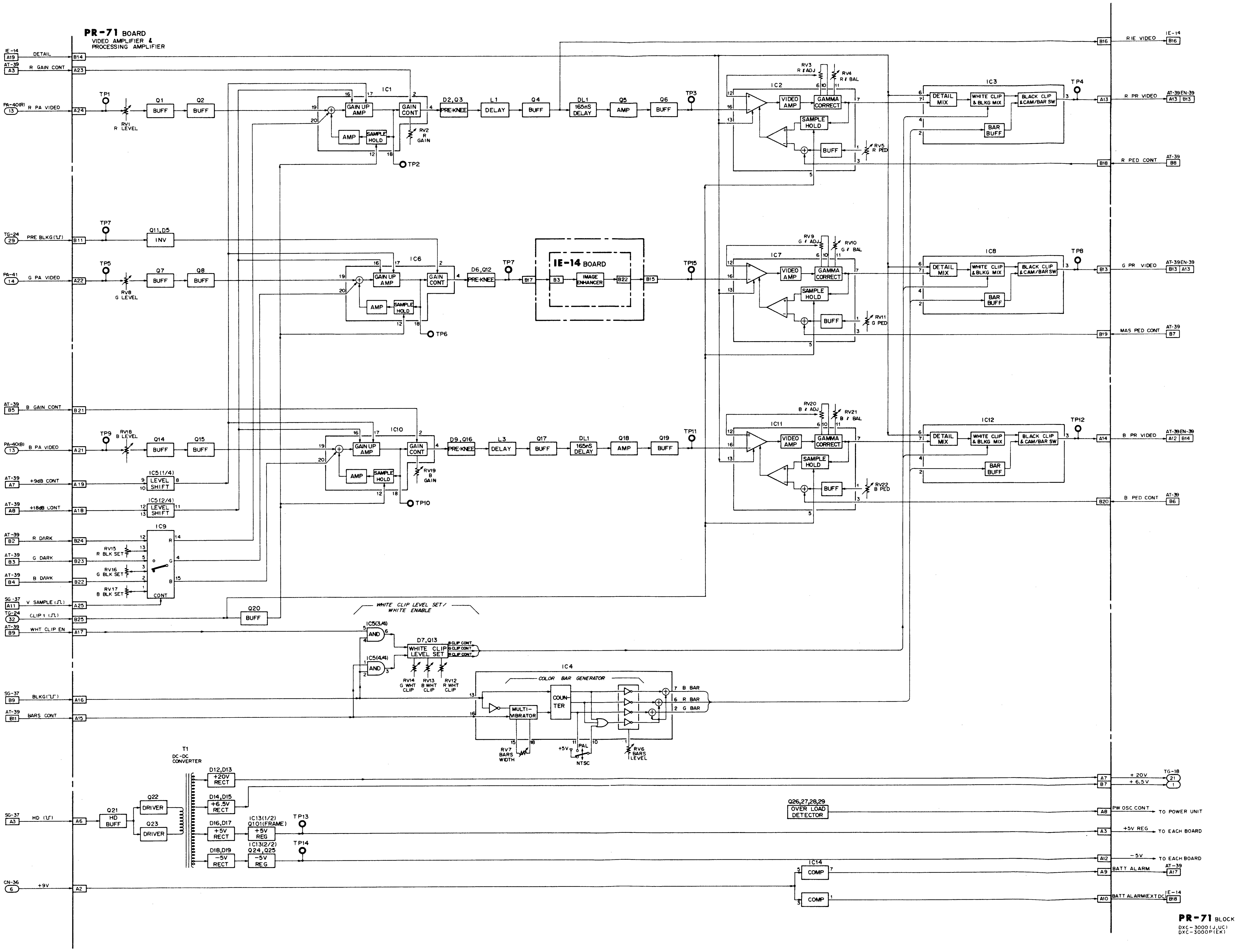

TG-18 BLOCK
TG-24 BLOCK
PA-40(B) BL
PA-41(G) BLO
PA-40(R) BL
IC4
H DRIVE
IC5
H DRIVE
IC6
H DRIVE
IC9
PG TIMING
IC8
PG DRIVE
IC7, IC9
π PHASE
IC10
REGULATOR
+20V
IC3
V DRIVE
IC1
TIMING PULSE GENERATOR
XH
XPG
XV
XSG1
H BLKG
SHP
SHD
ID
SP2
SP1
CLP 1
CLP 2
CLP 3
CL
XVCT
CK
FLD
HD
4 BIT DATA
8 BIT ADDRESS
CCD DEFECT COMPEN-SATOR
IC2
Q1
+5V
CN1
CN2
CN3
CN4
CN5
CN6
H1
H2
PG
V1
V2
V3
V4
SHP
SHD B
SHD G
SHD GπL
SHD R
CCD DRIVE PULSE
SG-37 A1
8fsc (X)
SG-37 B3
FLD
SG-37 A3
HD
SG-37 A7
4fsc (X)
SG-37 B12
VAA
PR-71 IE-14 B11 B20
PRE BLKG
AT-39 IE-14 A19 A22
CLAMP 3
IE-14 B5
CLAMP 2
PR-71 B25
CLAMP 1

PA-40 BOARD
PA-41 BOARD
TG-18 BOARD
TG-24 BOARD


TG-18 BLOCK
TG-24 BLOCK
PA-40(B) BLOCK
PA-41(G) BLOCK
PA-40(R) BLOCK
IC1
TIMING PULSE GENERATOR
CK
FLD
HD
XH
XPG
XV
XSG1
H BLKG
SHP
SHD
ID
SP2
SP1
CLP 1
CLP 2
CLP 3
CL
XVCT
4 BIT DATA
8 BIT ADDRESS
CCD DEFECT COMPENSATOR
IC2
Q1
+5V
IC10
REGULATOR
+20V
IC3
V DRIVE
IC4
H DRIVE
IC5
H DRIVE
IC6
H DRIVE
IC9
PG TIMING
IC8
PG DRIVE
IC7, IC9
π PHASE
SG-37 A1
8fsc (X)
SG-37 B3
FLD
SG-37 A3
HD
SG-37 A7
4fsc (X)
SG-37 B12
VAA
PR-71 B11 IE-14 B20
PRE BLKG
AT-39 A19 IE-14 A22
CLAMP 3
IE-14 B5
CLAMP 2
PR-71 B25
CLAMP 1
CN6
CN5
CN4
CN3
CN2
CN1
H1
H2
PG
V1
V2
V3
V4
SHP
SHD B
SHD G
SHD GTL
SHD R
CCD DRIVE PULSE
CCD
BUFF
SAMPLE HOLD
DIFF AMP
LPF
FL1
CV1 BLEMISH COMP
Q8
Q9
Q10
Q2
Q3
Q4,Q5
Q6
Q7
Q11~Q14
Q15
Q16
Q11
Q12
Q13,Q14
Q17~Q20
Q21
Q22
Q7,Q8
B PA VIDEO
G PA VIDEO
R PA VIDEO
PR-71 A21
PR-71 A22
PR-71 A24

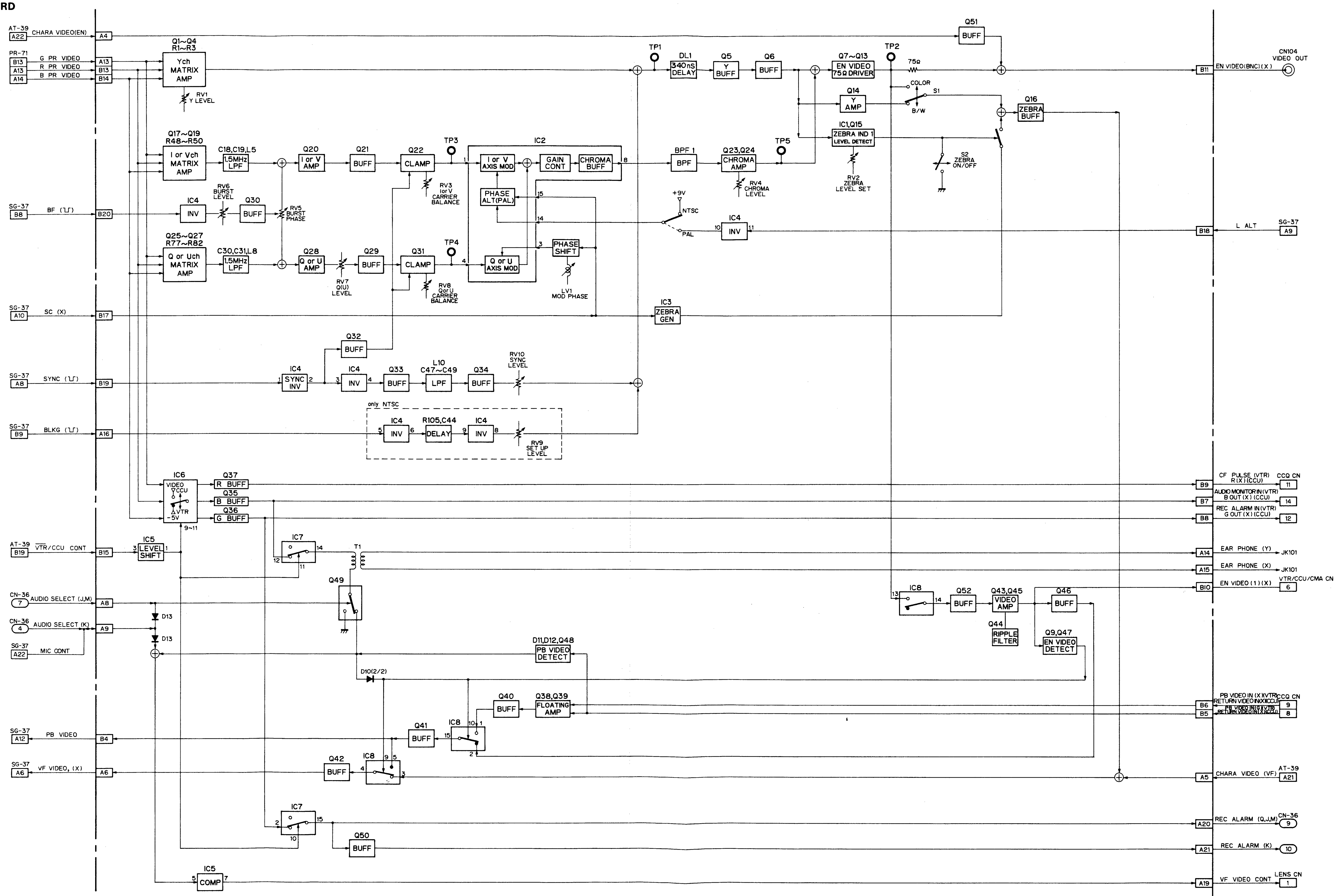
PA-40 BLOCK
PA-41 BLOCK
TG-18 BLOCK
TG-24 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

PR-71 BOARD


PR-71 BOARD
VIDEO AMPLIFIER & PROCESSING AMPLIFIER
IE-14 A19 DETAIL B14
AT-39 A3 R GAIN CONT A23
PA-40(R) 13 R PA VIDEO A24
TP1
RV1 R LEVEL
Q1 BUFF
Q2 BUFF
IC1
GAIN UP AMP
GAIN CONT
AMP
SAMPLE HOLD
RV2 R GAIN
TP2
D2,Q3 PRE-KNEE
L1 DELAY
Q4 BUFF
DL1 165nS DELAY
Q5 AMP
Q6 BUFF
TP3
IC2
RV3 R γ ADJ
RV4 R γ BAL
VIDEO AMP
GAMMA CORRECT
SAMPLE HOLD
BUFF
RV5 R PED
IC3
DETAIL MIX
WHITE CLIP & BLKG MIX
BLACK CLIP & CAM/BAR SW
BAR BUFF
TP4
B16 RIE VIDEO IE-14 B16
A13 R PR VIDEO AT-39 EN-39 A13 B13
B18 R PED CONT AT-39 B8
TG-24 29 PRE BLKG B11
TP7
Q11,D5 INV
PA-41 14 G PA VIDEO A22
TP5
RV8 G LEVEL
Q7 BUFF
Q8 BUFF
IC6
GAIN UP AMP
GAIN CONT
AMP
SAMPLE HOLD
TP6
D6,Q12 PRE-KNEE
TP7
B17
IE-14 BOARD
B3 IMAGE ENHANCER B22
B15
TP15
IC7
RV9 G γ ADJ
RV10 G γ BAL
VIDEO AMP
GAMMA CORRECT
SAMPLE HOLD
BUFF
RV11 G PED
IC8
DETAIL MIX
WHITE CLIP & BLKG MIX
BLACK CLIP & CAM/BAR SW
BAR BUFF
TP8
B13 G PR VIDEO AT-39 EN-39 B13 A13
B19 MAS PED CONT AT-39 B7
AT-39 B5 B GAIN CONT B21
PA-40(B) 13 B PA VIDEO A21
TP9
RV18 B LEVEL
Q14 BUFF
Q15 BUFF
IC10
GAIN UP AMP
GAIN CONT
AMP
SAMPLE HOLD
RV19 B GAIN
TP10
D9,Q16 PRE-KNEE
L3 DELAY
Q17 BUFF
DL1 165nS DELAY
Q18 AMP
Q19 BUFF
TP11
IC11
RV20 B γ ADJ
RV21 B γ BAL
VIDEO AMP
GAMMA CORRECT
SAMPLE HOLD
BUFF
RV22 B PED
IC12
DETAIL MIX
WHITE CLIP & BLKG MIX
BLACK CLIP & CAM/BAR SW
BAR BUFF
TP12
A14 B PR VIDEO AT-39 EN-39 A12 B14
B20 B PED CONT AT-39 B6
AT-39 A7 +9dB CONT A19
IC5(1/4) LEVEL SHIFT
AT-39 A8 +18dB CONT A18
IC5(2/4) LEVEL SHIFT
IC9
AT-39 B2 R DARK B24
RV15 R BLK SET
AT-39 B3 G DARK B23
RV16 G BLK SET
AT-39 B4 B DARK B22
RV17 B BLK SET
CONT
SG-37 A11 V SAMPLE A25
TG-24 32 CLIP 1 B25
Q20 BUFF
AT-39 B9 WHT CLIP EN A17
WHITE CLIP LEVEL SET/ WHITE ENABLE
IC5(3/4) AND
IC5(4/4) AND
D7,Q13 WHITE CLIP LEVEL SET
B CLIP CONT
G CLIP CONT
R CLIP CONT
RV14 G WHT CLIP
RV13 B WHT CLIP
RV12 R WHT CLIP
SG-37 B9 BLKG A16
AT-39 B11 BARS CONT A15
IC4
COLOR BAR GENERATOR
MULTI-VIBRATOR
COUNTER
RV7 BARS WIDTH
+5V PAL NTSC
RV6 BARS LEVEL
7 B BAR
6 R BAR
2 G BAR
T1 DC-DC CONVERTER
SG-37 A3 HD A6
Q21 HD BUFF
Q22 DRIVER
Q23 DRIVER
D12,D13 +20V RECT
D14,D15 +6.5V RECT
D16,D17 +5V RECT
IC13(1/2) Q101(FRAME) +5V REG
TP13
D18,D19 −5V RECT
IC13(2/2) Q24,Q25 −5V REG
TP14
A7 +20V TG-18 21
B7 +6.5V 1
Q26,27,28,29 OVER LOAD DETECTOR
A8 PW OSC CONT TO POWER UNIT
A3 +5V REG TO EACH BOARD
A12 −5V TO EACH BOARD
IC14 COMP
COMP
A9 BATT ALARM AT-39 A17
A10 BATT ALARM(EXT DC) IE-14 B18
CN-36 6 +9V A2

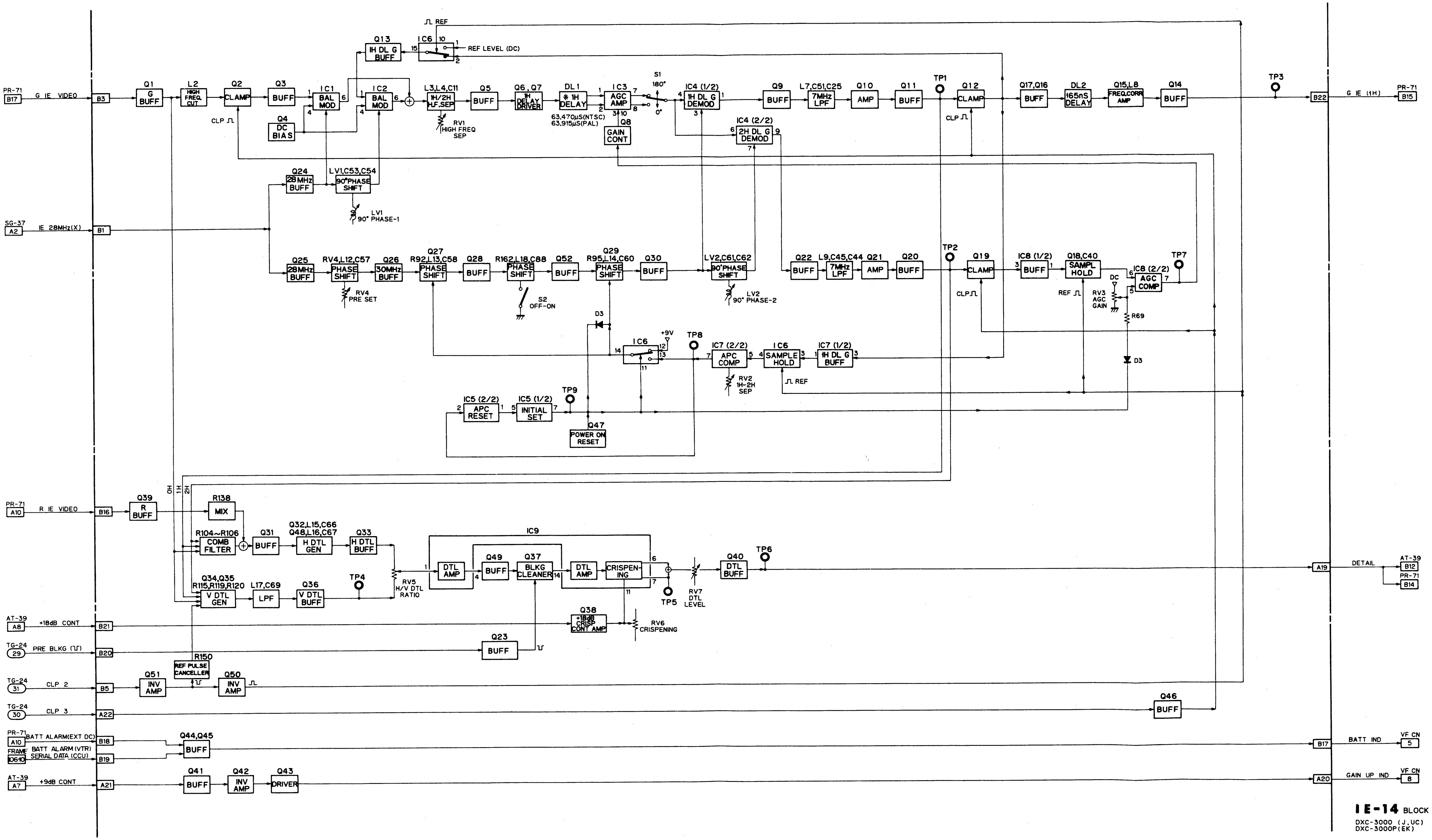
PR-71 BLOCK
DXC-3000(J,UC)
DXC-3000P(EK)

EN-39 BOARD


AT-39 A22 CHARA VIDEO(EN) A4
PR-71 B13 G PR VIDEO A13
A13 R PR VIDEO B13
A14 B PR VIDEO B14
Q1~Q4 R1~R3
Ych MATRIX AMP
RV1 Y LEVEL
Q17~Q19 R48~R50
I or Vch MATRIX AMP
C18,C19,L5
1.5MHz LPF
Q20 I or V AMP
Q21 BUFF
Q22 CLAMP
RV3 I or V CARRIER BALANCE
TP3
IC2
I or V AXIS MOD
GAIN CONT
CHROMA BUFF
PHASE ALT(PAL)
SG-37 B8 BF B20
IC4 INV
RV6 BURST LEVEL
Q30 BUFF
RV5 BURST PHASE
Q25~Q27 R77~R82
Q or Uch MATRIX AMP
C30,C31,L8
1.5MHz LPF
Q28 Q or U AMP
RV7 Q(U) LEVEL
Q29 BUFF
Q31 CLAMP
RV8 Q or U CARRIER BALANCE
TP4
Q or U AXIS MOD
PHASE SHIFT
LV1 MOD PHASE
SG-37 A10 SC (X) B17
IC3 ZEBRA GEN
Q32 BUFF
SG-37 A8 SYNC B19
IC4 SYNC INV
IC4 INV
Q33 BUFF
L10 C47~C49 LPF
Q34 BUFF
RV10 SYNC LEVEL
only NTSC
SG-37 B9 BLKG A16
IC4 INV
R105,C44 DELAY
IC4 INV
RV9 SET UP LEVEL
TP1
DL1 340nS DELAY
Q5 Y BUFF
Q6 BUFF
Q7~Q13 EN VIDEO 75Ω DRIVER
TP2
75Ω
Q51 BUFF
B11 EN VIDEO(BNC)(X)
CN104 VIDEO OUT
Q14 Y AMP
COLOR
S1
B/W
Q16 ZEBRA BUFF
IC1,Q15 ZEBRA IND 1 LEVEL DETECT
RV2 ZEBRA LEVEL SET
S2 ZEBRA ON/OFF
BPF 1 BPF
Q23,Q24 CHROMA AMP
RV4 CHROMA LEVEL
TP5
+9V
NTSC
PAL
IC4 INV
B18 L ALT SG-37 A9
IC6 VIDEO CCU VTR -5V
Q37 R BUFF
Q35 B BUFF
Q36 G BUFF
9~11
B9 CF PULSE (VTR) R(X)(CCU) CCQ CN 11
B7 AUDIO MONITOR IN (VTR) B OUT (X)(CCU) 14
B8 REC ALARM IN (VTR) G OUT (X)(CCU) 12
AT-39 B19 VTR/CCU CONT B15
IC5 LEVEL SHIFT
IC7
T1
A14 EAR PHONE (Y) JK101
A15 EAR PHONE (X) JK101
B10 EN VIDEO (1)(X) VTR/CCU/CMA CN 6
CN-36 7 AUDIO SELECT (J,M) A8
CN-36 4 AUDIO SELECT (K) A9
SG-37 A22 MIC CONT
D13
D13
Q49
D11,D12,Q48 PB VIDEO DETECT
D10(2/2)
IC8
Q52 BUFF
Q43,Q45 VIDEO AMP
Q44 RIPPLE FILTER
Q46 BUFF
Q9,Q47 EN VIDEO DETECT
Q40 BUFF
Q38,Q39 FLOATING AMP
B6 PB VIDEO IN (X)(VTR) RETURN VIDEO IN(X)(CCU) CCQ CN 9
B5 PB VIDEO IN(G)(VTR) RETURN VIDEO IN(X)(CCU) 8
SG-37 A12 PB VIDEO B4
Q41 BUFF
IC8
SG-37 A6 VF VIDEO, (X) A6
Q42 BUFF
IC8
A5 CHARA VIDEO (VF) AT-39 A21
IC7
Q50 BUFF
A20 REC ALARM (Q,J,M) CN-36 9
A21 REC ALARM (K) 10
IC5 COMP
A19 VF VIDEO CONT LENS CN 1

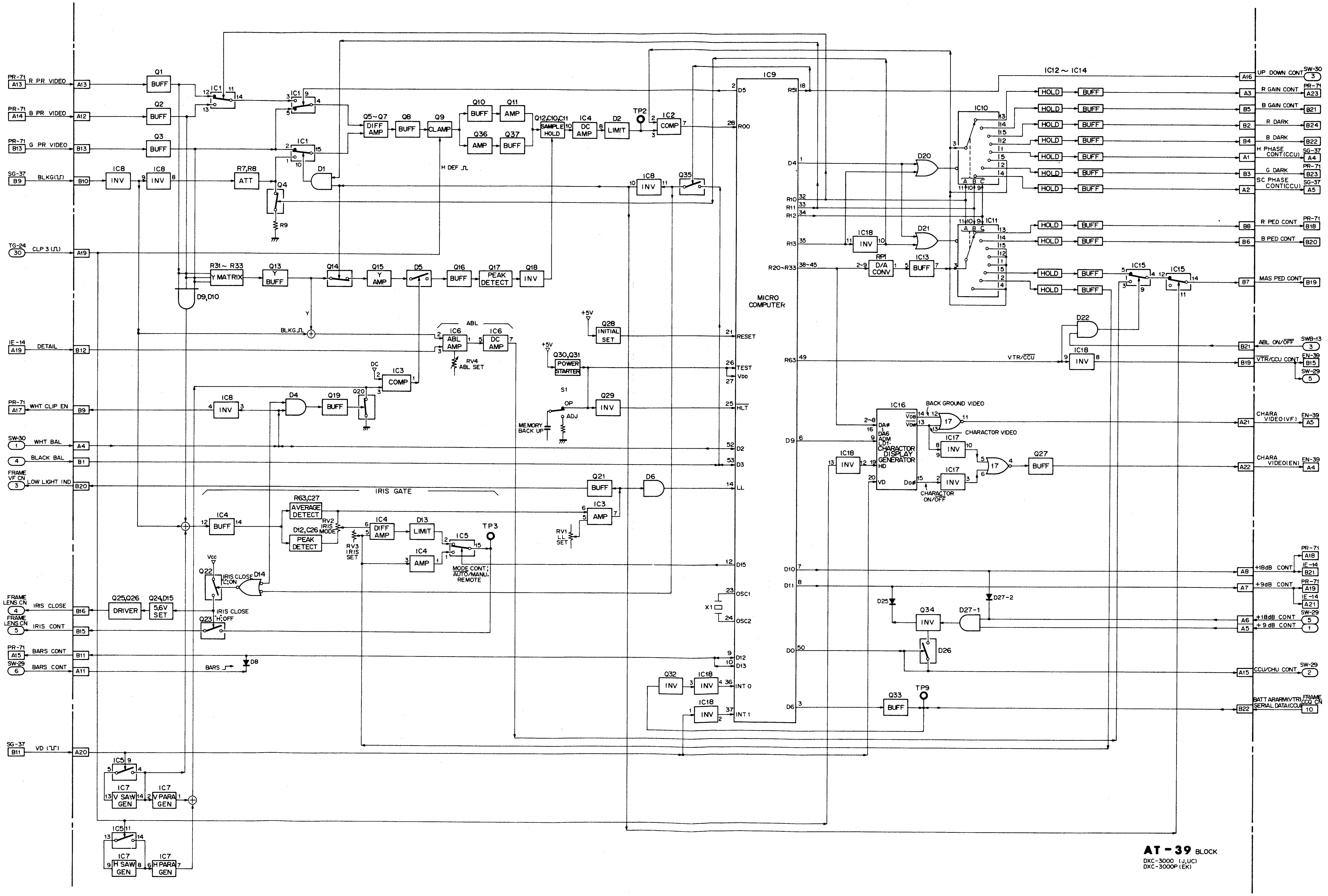
EN-39 BLOCK
DXC-3000 (J,UC)
DXC-3000P(EK)

IE-14 BOARD


PR-71 B17 G IE VIDEO
B3
Q1 G BUFF
L2 HIGH FREQ CUT
Q2 CLAMP
CLP
Q3 BUFF
Q4 DC BIAS
IC1 BAL MOD
IC2 BAL MOD
Q13 1H DL G BUFF
IC6 REF LEVEL (DC)
REF
L3,L4,C11 1H/2H H.F.SEP
RV1 HIGH FREQ SEP
Q5 BUFF
Q6,Q7 1H DELAY DRIVER
DL1 * 1H DELAY
63.470µS(NTSC) 63.915µS(PAL)
IC3 AGC AMP
Q8 GAIN CONT
S1 180° 0°
IC4 (1/2) 1H DL G DEMOD
IC4 (2/2) 2H DL G DEMOD
Q9 BUFF
L7,C51,C25 7MHz LPF
Q10 AMP
Q11 BUFF
TP1
Q12 CLAMP
CLP
Q17,Q16 BUFF
DL2 165nS DELAY
Q15,L8 FREQ.CORR AMP
Q14 BUFF
TP3
B22 G IE (1H) PR-71 B15
Q24 28MHz BUFF
LV1,C53,C54 90°PHASE SHIFT
LV1 90° PHASE-1
SG-37 A2 IE 28MHz(X) B1
Q25 28MHz BUFF
RV4,L12,C57 PHASE SHIFT
RV4 PRE SET
Q26 30MHz BUFF
Q27 R92,L13,C58 PHASE SHIFT
Q28 BUFF
R162,L18,C88 PHASE SHIFT
S2 OFF-ON
Q52 BUFF
Q29 R95,L14,C60 PHASE SHIFT
Q30 BUFF
LV2,C61,C62 90°PHASE SHIFT
LV2 90° PHASE-2
Q22 BUFF
L9,C45,C44 7MHz LPF
Q21 AMP
Q20 BUFF
TP2
Q19 CLAMP
CLP
IC8 (1/2) BUFF
Q18,C40 SAMPL HOLD
IC8 (2/2) AGC COMP
TP7
DC
REF
RV3 AGC GAIN
R69
D3
D3
IC6
+9V
TP8
IC7 (2/2) APC COMP
RV2 1H-2H SEP
IC6 SAMPLE HOLD
REF
IC7 (1/2) 1H DL G BUFF
IC5 (2/2) APC RESET
IC5 (1/2) INITIAL SET
TP9
Q47 POWER ON RESET
0H 1H 2H
PR-71 A10 R IE VIDEO B16
Q39 R BUFF
R138 MIX
R104~R106 COMB FILTER
Q31 BUFF
Q32,L15,C66 Q48,L16,C67 H DTL GEN
Q33 H DTL BUFF
Q34,Q35 R115,R119,R120 V DTL GEN
L17,C69 LPF
Q36 V DTL BUFF
TP4
RV5 H/V DTL RATIO
IC9
DTL AMP
Q49 BUFF
Q37 BLKG CLEANER
DTL AMP
CRISPEN-ING
TP5
RV7 DTL LEVEL
Q40 DTL BUFF
TP6
A19 DETAIL AT-39 B12 PR-71 B14
Q38 +18dB CRISP CONT AMP
RV6 CRISPENING
AT-39 A8 +18dB CONT B21
Q23 BUFF
TG-24 29 PRE BLKG B20
R150 REF PULSE CANCELLER
TG-24 31 CLP 2 B5
Q51 INV AMP
Q50 INV AMP
TG-24 30 CLP 3 A22
Q46 BUFF
PR-71 A10 BATT ALARM(EXT DC) B18
FRAME 10610 BATT ALARM (VTR) SERIAL DATA (CCU) B19
Q44,Q45 BUFF
B17 BATT IND VF CN 5
AT-39 A7 +9dB CONT A21
Q41 BUFF
Q42 INV AMP
Q43 DRIVER
A20 GAIN UP IND VF CN 8

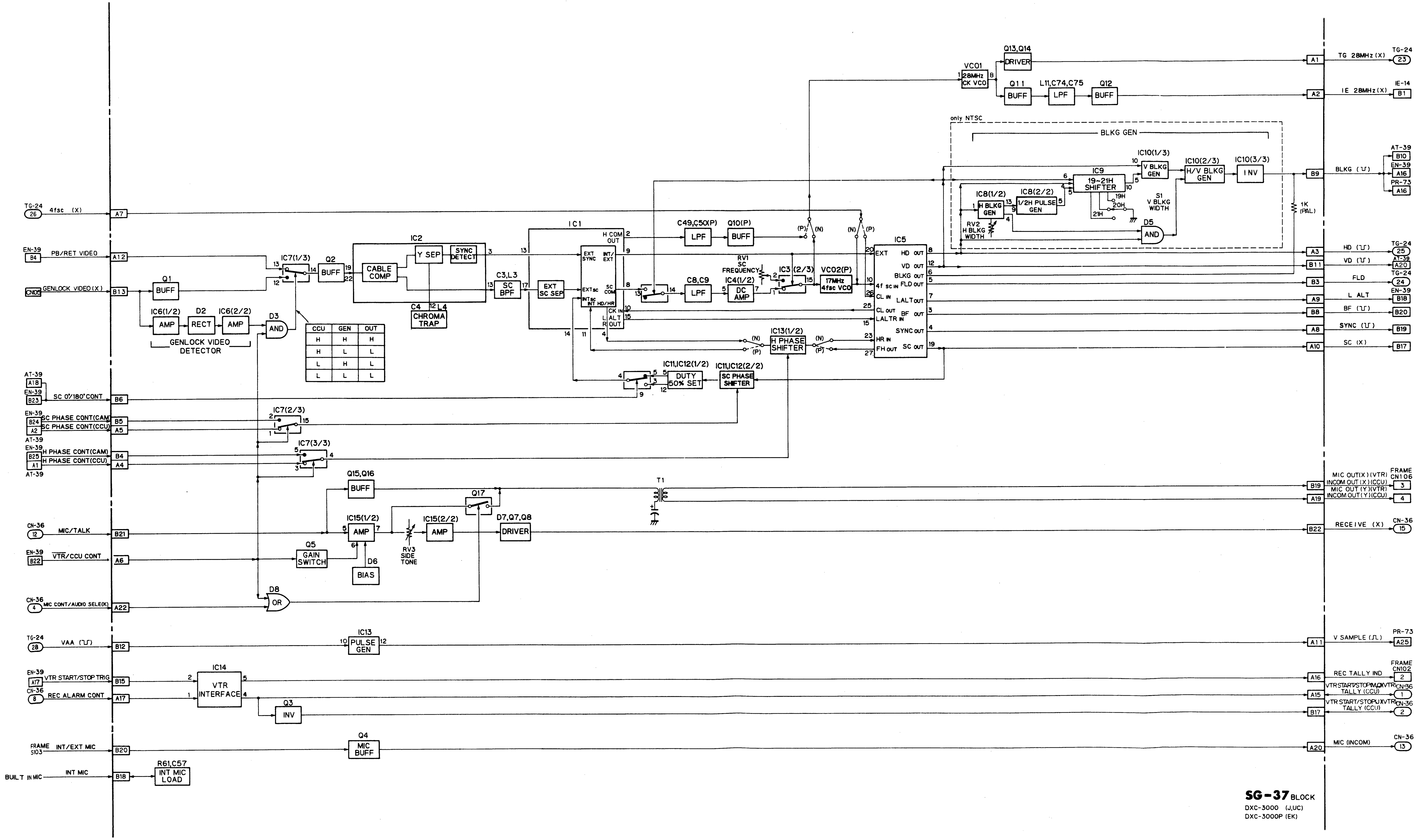
IE-14 BLOCK
DXC-3000 (J,UC)
DXC-3000P(EK)

AT-39 BOARD


PR-71 A13 R PR VIDEO
PR-71 A14 B PR VIDEO
PR-71 B13 G PR VIDEO
SG-37 B9 BLKG
TG-24 30 CLP 3
IE-14 A19 DETAIL
PR-71 A17 WHT CLIP EN
SW-30 1 WHT BAL
4 BLACK BAL
FRAME VF CN 3 LOW LIGHT IND
FRAME LENS CN 4 IRIS CLOSE
FRAME LENS CN 5 IRIS CONT
PR-71 A15 BARS CONT
SW-29 6 BARS CONT
SG-37 B11 VD
Q1 BUFF
Q2 BUFF
Q3 BUFF
IC8 INV
IC1
Q5~Q7 DIFF AMP
Q8 BUFF
Q9 CLAMP
Q10 BUFF
Q11 AMP
Q36 AMP
Q37 BUFF
Q12,C10,C11 SAMPLE HOLD
IC4 DC AMP
D2 LIMIT
TP2
IC2 COMP
H DEF
R7,R8 ATT
Q4
R9
D1
IC8 INV
Q35
R31~R33 Y MATRIX
Q13 Y BUFF
Q14
Q15 Y AMP
D5
Q16 BUFF
Q17 PEAK DETECT
Q18 INV
D9,D10
BLKG
Y
ABL
IC6 ABL AMP
IC6 DC AMP
RV4 ABL SET
DC
IC3 COMP
IC8 INV
D4
Q19 BUFF
Q20
IRIS GATE
R63,C27 AVERAGE DETECT
D12,C26 PEAK DETECT
RV2 IRIS MODE
RV3 IRIS SET
IC4 BUFF
IC4 DIFF AMP
D13 LIMIT
IC4 AMP
IC5
TP3
MODE CONT; AUTO/MANU. REMOTE
Vcc
Q22
IRIS CLOSE "L":ON
D14
IRIS CLOSE "H":OFF
Q23
Q25,Q26 DRIVER
Q24,D15 5.6V SET
BARS
D8
IC5
IC7 V SAW GEN
IC7 V PARA GEN
IC7 H SAW GEN
IC7 H PARA GEN
Q21 BUFF
D6
IC3 AMP
RV1 LL SET
+5V
Q28 INITIAL SET
Q30,Q31 POWER STARTER
S1 OP ADJ
MEMORY BACK UP
Q29 INV
X1
Q32 INV
IC18 INV
IC9
MICRO COMPUTER
D5 R51 R00 D4 R10 R11 R12 R13 R20~R33 R63 RESET TEST VDD HLT D2 D3 LL D15 OSC1 OSC2 D12 D13 INT 0 INT 1 D9 D10 D11 D0 D6
IC10
D20
D21
IC11
IC18 INV
RP1 D/A CONV
IC13 BUFF
IC12 ~ IC14
HOLD
BUFF
IC15
D22
IC18 INV
VTR/CCU
IC16 CHARACTOR DISPLAY GENERATOR
BACK GROUND VIDEO
CHARACTOR VIDEO
IC17
IC17 INV
Q27 BUFF
CHARACTOR ON/OFF
D25
Q34 INV
D27-1
D27-2
D26
Q33 BUFF
TP9
UP DOWN CONT SW-30 3
R GAIN CONT PR-71 A23
B GAIN CONT B21
R DARK B24
B DARK B22
H PHASE CONT(CCU) SG-37 A4
G DARK PR-71 B23
SC PHASE CONT(CCU) SG-37 A5
R PED CONT PR-71 B18
B PED CONT B20
MAS PED CONT B19
ABL ON/OFF SWB-13 3
VTR/CCU CONT EN-39 B15 SW-29 5
CHARA VIDEO(VF) EN-39 A5
CHARA VIDEO(EN) EN-39 A4
+18dB CONT PR-71 A18 IE-14 B21
+9dB CONT PR-71 A19 IE-14 A21
+18dB CONT SW-29 5
+9 dB CONT 1
CCU/CHU CONT SW-29 2
BATT ARARM(VTR) SERIAL DATA(CCU) FRAME CCU CN 10

AT-39 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

SG-37 BLOCK


TG-24 26 4fsc (X) A7
EN-39 B4 PB/RET VIDEO A12
CN105 GENLOCK VIDEO (X) B13
Q1 BUFF
IC6(1/2) AMP
D2 RECT
IC6(2/2) AMP
GENLOCK VIDEO DETECTOR
D3 AND
IC7(1/3)
Q2 BUFF
IC2
CABLE COMP
Y SEP
SYNC DETECT
C4 L4 CHROMA TRAP
C3,L3 SC BPF
EXT SC SEP
IC1
H COM OUT
EXT SYNC
INT/EXT
EXTsc
SC COM
INTsc
INT HD/HR
CK IN
L ALT R OUT
C49,C50(P) LPF
Q10(P) BUFF
C8,C9 LPF
IC4(1/2) DC AMP
RV1 SC FREQUENCY
IC3 (2/3)
VCO2(P) 17MHz 4fsc VCO
(P) (N)
(N) (P)
IC5
EXT
4f sc IN
CL IN
CL OUT
LALTR IN
HR IN
FH OUT
HD OUT
VD OUT
BLKG OUT
FLD OUT
LALT OUT
BF OUT
SYNC OUT
SC OUT
IC13(1/2) H PHASE SHIFTER
IC11,IC12(1/2) DUTY 50% SET
IC11,IC12(2/2) SC PHASE SHIFTER
VCO1 28MHz CK VCO
Q13,Q14 DRIVER
Q11 BUFF
L11,C74,C75 LPF
Q12 BUFF
only NTSC
BLKG GEN
IC8(1/2) H BLKG GEN
IC8(2/2) 1/2H PULSE GEN
IC9 19~21H SHIFTER
IC10(1/3) V BLKG GEN
IC10(2/3) H/V BLKG GEN
IC10(3/3) INV
RV2 H BLKG WIDTH
S1 V BLKG WIDTH
19H 20H 21H
D5 AND
1K (PAL)
AT-39 A18
EN-39 B23
SC 0°/180° CONT B6
EN-39 B24 SC PHASE CONT(CAM) B5
A2 SC PHASE CONT(CCU) A5
AT-39
EN-39 B25 H PHASE CONT(CAM) B4
A1 H PHASE CONT(CCU) A4
AT-39
IC7(2/3)
IC7(3/3)
Q15,Q16 BUFF
Q17
T1
CN-36 12 MIC/TALK B21
IC15(1/2) AMP
RV3 SIDE TONE
IC15(2/2) AMP
D7,Q7,Q8 DRIVER
EN-39 B22 VTR/CCU CONT A6
Q5 GAIN SWITCH
D6 BIAS
CN-36 4 MIC CONT/AUDIO SELE(K) A22
D8 OR
TG-24 28 VAA (⊔) B12
IC13 PULSE GEN
EN-39 A17 VTR START/STOP TRIG B15
CN-36 8 REC ALARM CONT A17
IC14 VTR INTERFACE
Q3 INV
FRAME S103 INT/EXT MIC B20
Q4 MIC BUFF
BUILT IN MIC INT MIC B18
R61,C57 INT MIC LOAD
A1 TG 28MHz (X) TG-24 23
A2 IE 28MHz (X) IE-14 B1
B9 BLKG (⊔) AT-39 B10 EN-39 A16 PR-73 A16
A3 HD (⊔) TG-24 25
B11 VD (⊔) AT-39 A20
B3 FLD TG-24 24
A9 L ALT EN-39 B18
B8 BF (⊔) B20
A8 SYNC (⊔) B19
A10 SC (X) B17
B19 MIC OUT(X)(VTR) INCOM OUT(X)(CCU) FRAME CN106 3
A19 MIC OUT(Y)(VTR) INCOM OUT(Y)(CCU) 4
B22 RECEIVE (X) CN-36 15
A11 V SAMPLE (⊓) PR-73 A25
A16 REC TALLY IND FRAME CN102 2
A15 VTR START/STOP(M,Q)(VTR) TALLY (CCU) CN-36 1
B17 VTR START/STOP(J)(VTR) TALLY (CCU) CN-36 2
A20 MIC (INCOM) CN-36 13

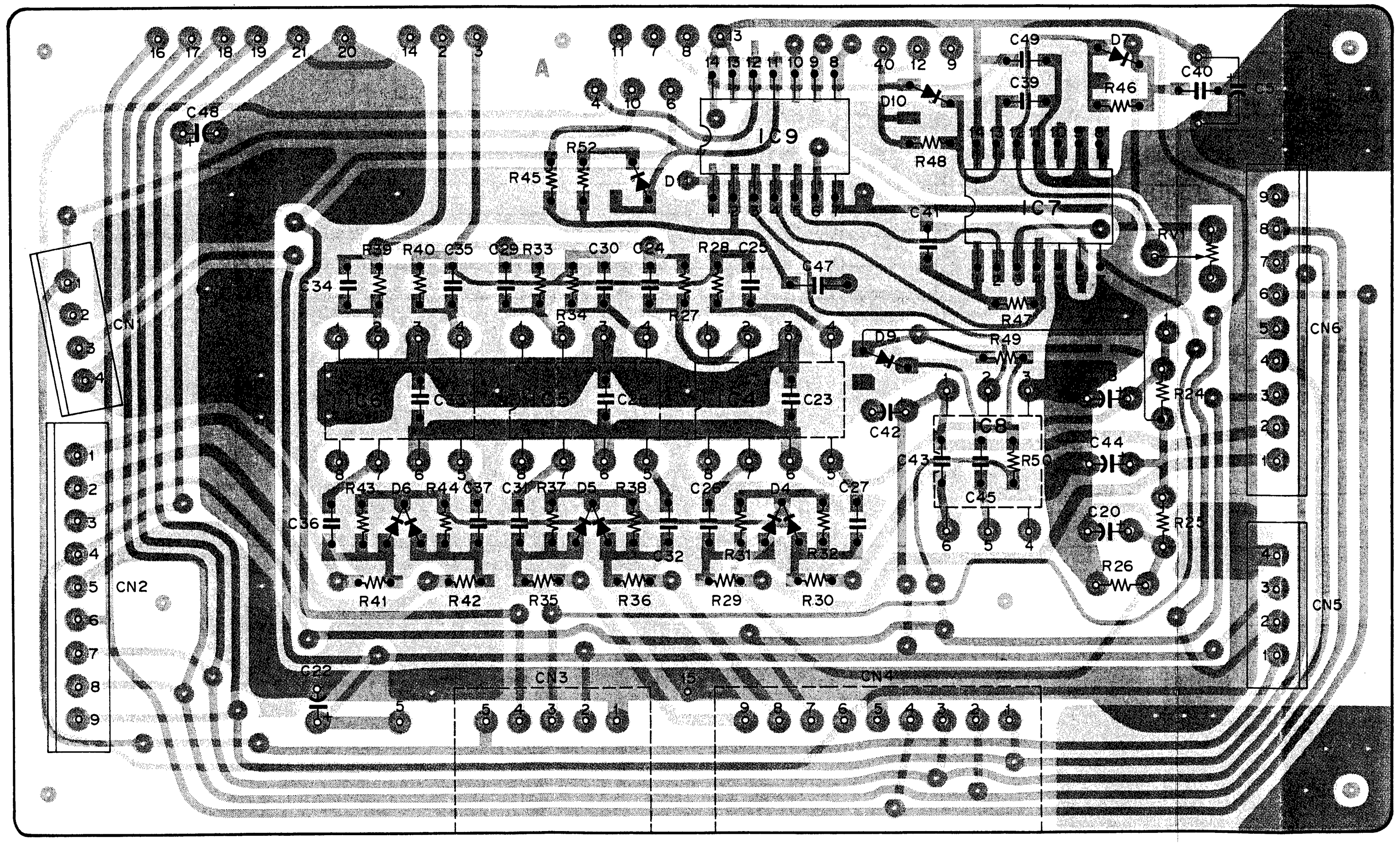
CCU	GEN	OUT
H	H	H
H	L	L
L	H	L
L	L	L

SG-37 BLOCK
DXC-3000 (J,UC)
DXC-3000P (EK)

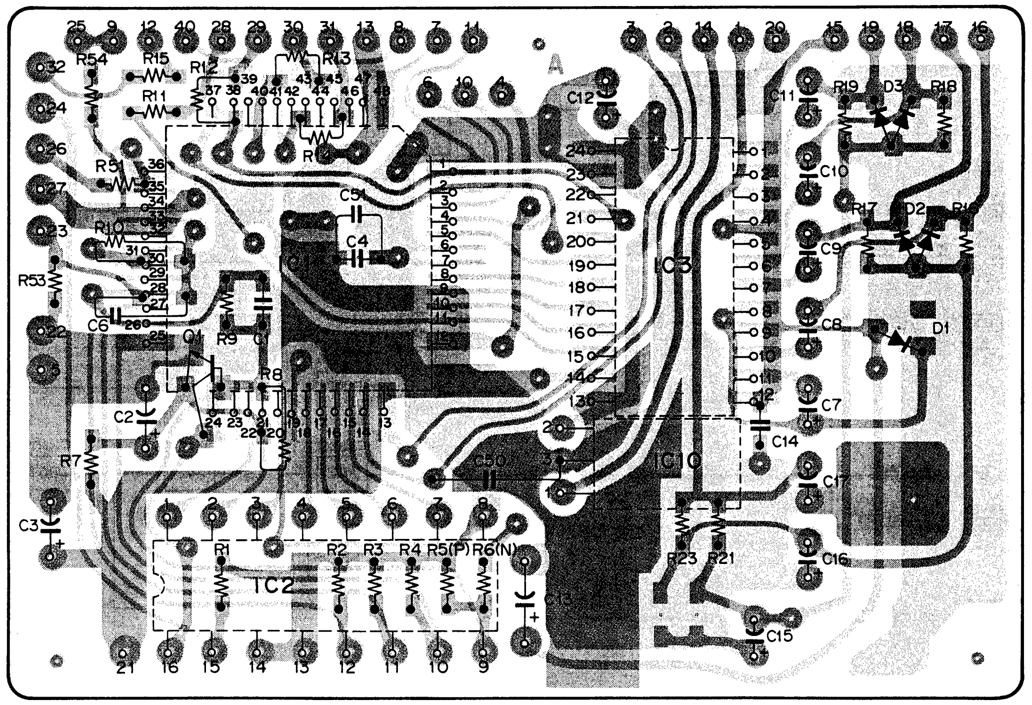
4-2. MOUNTED CIRCUIT BOARD AND SCHEMATIC DIAGRAM

TG-18 BOARD

TG-24 BOARD

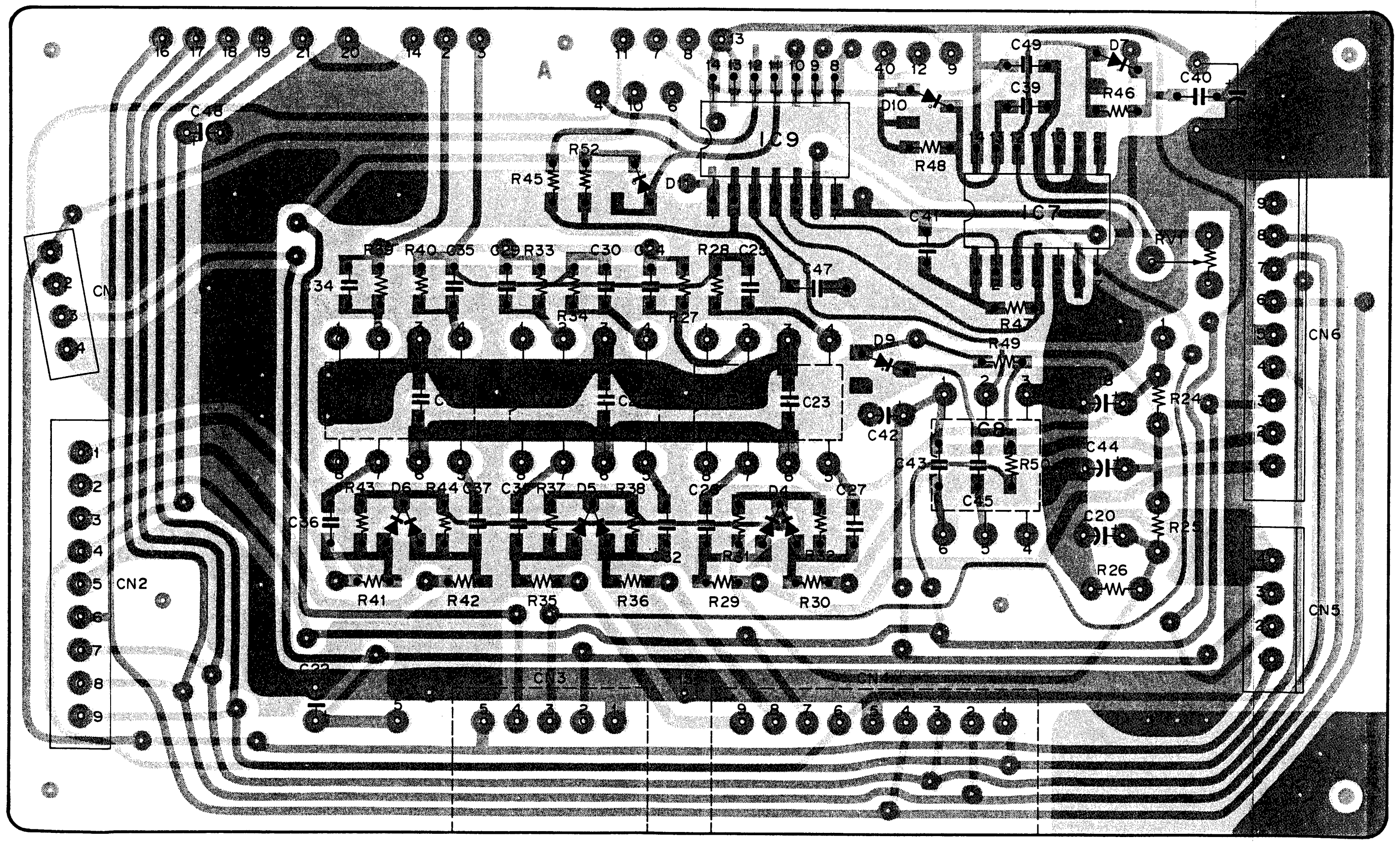

A
IC9
IC7
IC8
CN1
CN2
CN3
CN4
CN5
CN6
C48
R52
R45
D10
R48
C49
C39
D7
R46
C40
C41
R39
R40
C35
C29
R33
C30
C24
R28
C25
C34
C47
R34
R27
R47
D9
R49
C23
C42
C43
R50
C45
C44
C20
R24
R25
R26
R43
D6
R44
C37
C31
R37
D5
R38
C26
D4
C27
C36
C32
R31
R32
R41
R42
R35
R36
R29
R30
C22

TG-18 BOARD
-SOLDERING SIDE-
1-617-365-11
DXC-3000 (J,UC)
DXC-3000P(E K)

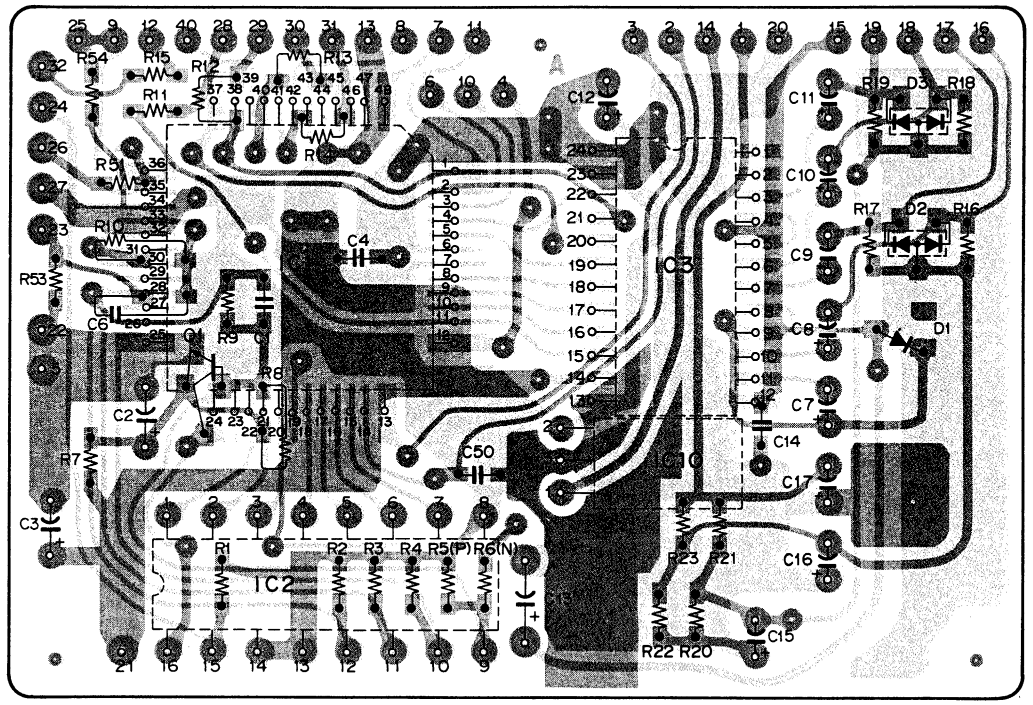

A
IC3
IC10
IC2
R54
R15
R12
R13
R11
R51
R10
R53
C6
Q1
R9
R8
C2
R7
C3
C5
C4
C12
C11
R19
D3
R18
C10
R17
D2
C9
C8
D1
C7
C14
C50
C13
C16
C15
R23
R21
R1
R2
R3
R4
R5(P)
R6(N)

TG-24 BOARD
-SOLDERING SIDE-
1-617-366-11
DXC-3000 (J,UC)
DXC-3000P(E K)

TG-18 BOARD
TG-24 BOARD

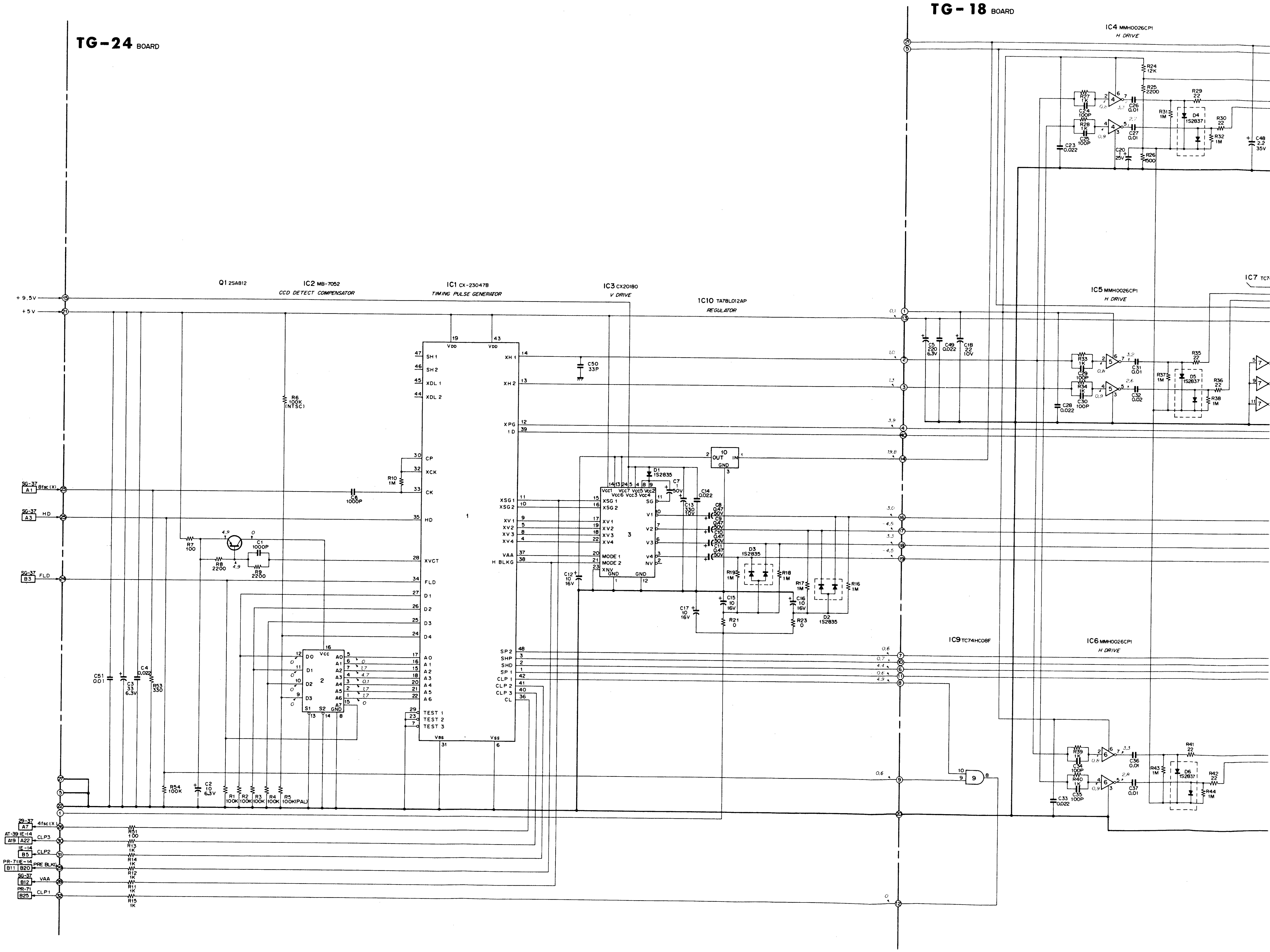

IC9
IC7
IC8
CN1
CN2
CN5
CN6
A
C48
C49
D7
C40
C39
R46
D10
R48
R52
R45
C41
R47
C47
R49
D9
C42
C43
C45
R50
C44
R24
C20
R23
R26
C23
R39
R40
C35
C29
R33
C30
C34
R28
C25
R34
R27
R43
D6
R44
C37
R37
D5
R38
D4
C27
C36
R41
R42
R35
R36
R29
R30
C22
C13

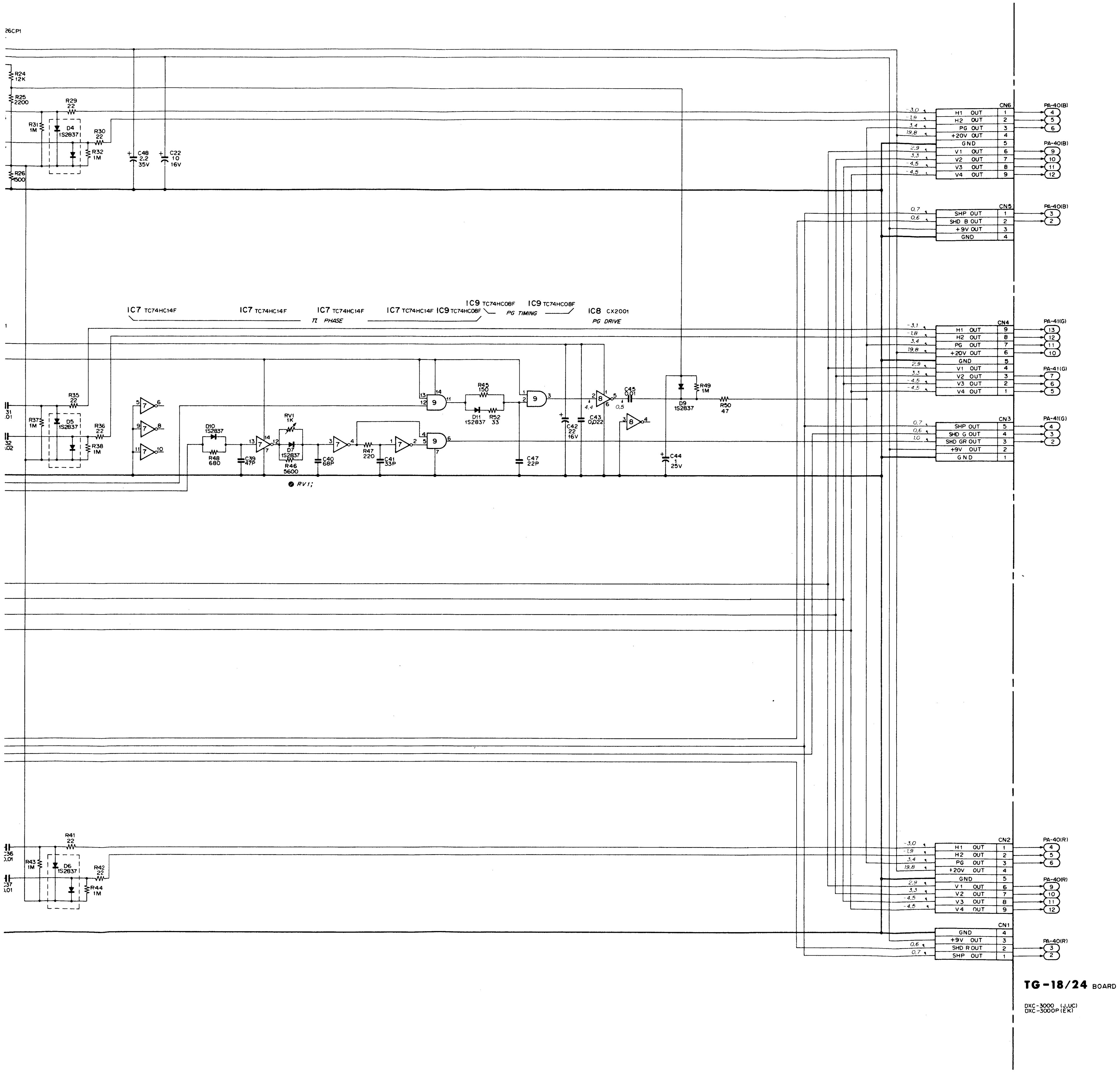
TG-18 BOARD
-SOLDERING SIDE-
1-617-365-12
DXC-3000 (J,UC)
DXC-3000P (EK)


IC2
IC3
IC10
A
R54
R15
R12
R13
R11
R51
R10
R53
C6
C2
R7
C3
Q1
R9
R8
C4
C50
C12
R1
R2
R3
R4
R5(P)
R6(N)
C11
R19
D3
R18
C10
R17
D2
R16
C9
C8
D1
C7
C14
C17
C16
C15
R23
R21
R22
R20

TG-24 BOARD
-SOLDERING SIDE-
1-617-366-12
DXC-3000 (J,UC)
DXC-3000P (EK)

TG-18 BOARD
TG-24 BOARD


TG-24 BOARD
TG-18 BOARD
Q1 2SA812
IC2 MB-7052
CCD DETECT COMPENSATOR
IC1 CX-23047B
TIMING PULSE GENERATOR
IC3 CX20180
V DRIVE
IC10 TA78L012AP
REGULATOR
IC4 MMH0026CP1
H DRIVE
IC5 MMH0026CP1
H DRIVE
IC6 MMH0026CP1
H DRIVE
IC9 TC74HC08F
+9.5V
+5V
SG-37 A1 8fsc(X)
SG-37 A3 HD
SG-37 B3 FLD
29-37 A7 4fsc(X)
AT-39 IE-14 A19 A22 CLP3
IE-14 B5 CLP2
PR-71 IE-14 B11 B20 PRE BLKG
SG-37 B12 VAA
PR-71 B25 CLP1
D1 1S2835
D2 1S2835
D3 1S2835
D4 1S2837
D5 1S2837
D6 1S2837


26CP1
R24 12K
R25 2200
R29 22
R31 1M
D4 1S2837
R30 22
R32 1M
C48 2.2 35V
C22 10 16V
R26 1500
IC7 TC74HC14F
IC9 TC74HC08F
IC8 CX2001
π PHASE
PG TIMING
PG DRIVE
R35 22
R37 1M
D5 1S2837
R36 22
R38 1M
D10 1S2837
R48 680
C39 47P
RV1 1K
D7 1S2837
R46 5600
RV1
C40 68P
R47 220
C41 33P
R45 150
D11 1S2837
R52 33
C47 22P
C42 22 16V
C43 0.022
C45 0.01
D9 1S2837
R49 1M
R50 47
C44 1 25V
R41 22
R43 1M
D6 1S2837
R42 22
R44 1M
CN6
H1 OUT 1
H2 OUT 2
PG OUT 3
+20V OUT 4
GND 5
V1 OUT 6
V2 OUT 7
V3 OUT 8
V4 OUT 9
PA-40(B)
CN5
SHP OUT 1
SHD B OUT 2
+9V OUT 3
GND 4
CN4
H1 OUT 9
H2 OUT 8
PG OUT 7
+20V OUT 6
GND 5
V1 OUT 4
V2 OUT 3
V3 OUT 2
V4 OUT 1
PA-41(G)
CN3
SHP OUT 5
SHD G OUT 4
SHD GR OUT 3
+9V OUT 2
GND 1
CN2
PA-40(R)
CN1
GND 4
+9V OUT 3
SHD R OUT 2
SHP OUT 1
-3.0
-1.9
3.4
19.8
2.9
3.3
-4.5
0.7
0.6
1.0
TG-18/24 BOARD
DXC-3000 (J,UC)
DXC-3000P(EK)

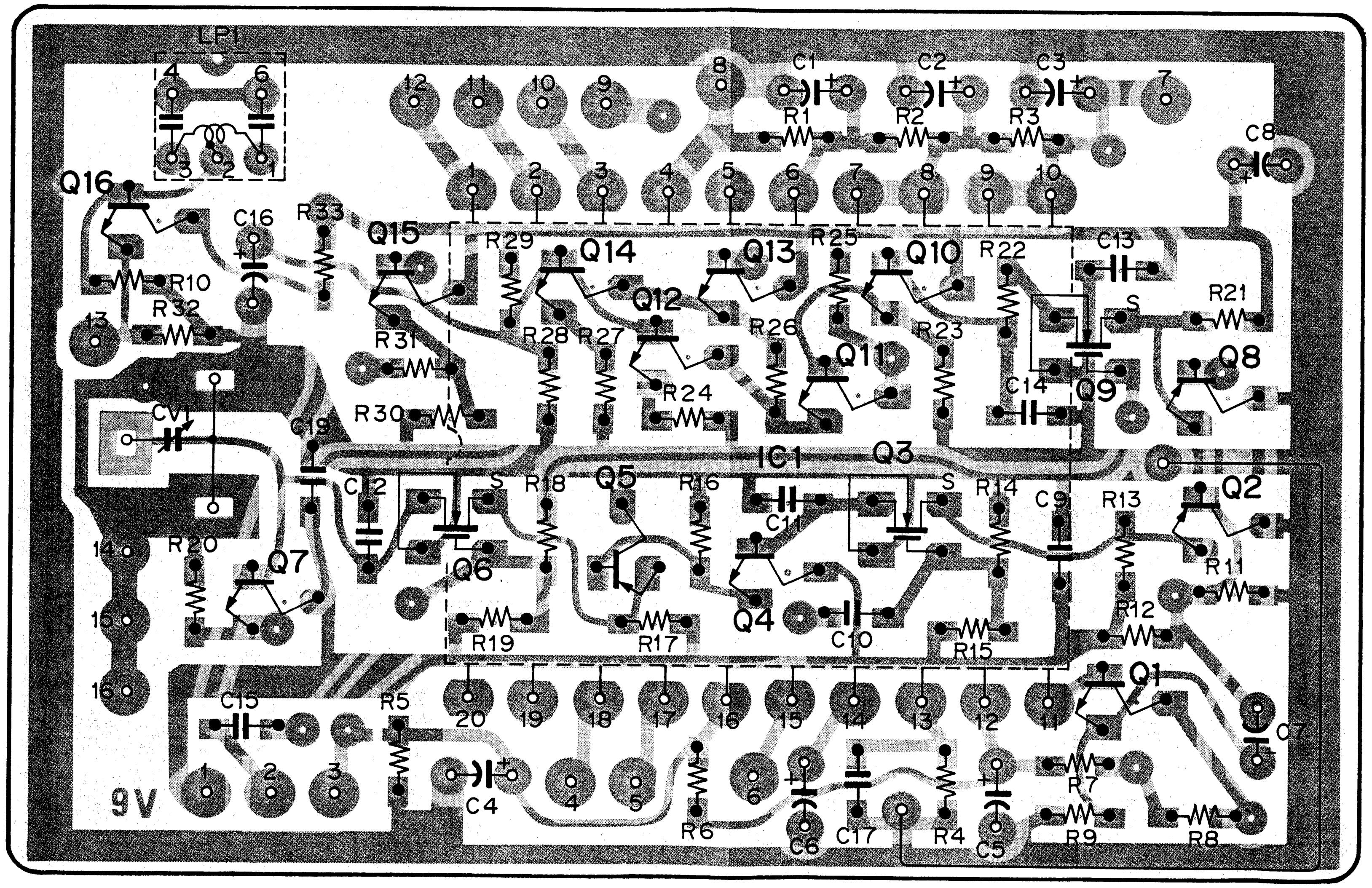
注意：

1．DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。

NOTE:

1. All voltage are dc, mesured with a digital voltmeter.
   (input impedance: 10 MΩ)

PA-40 BOARD
PA-41 BOARD

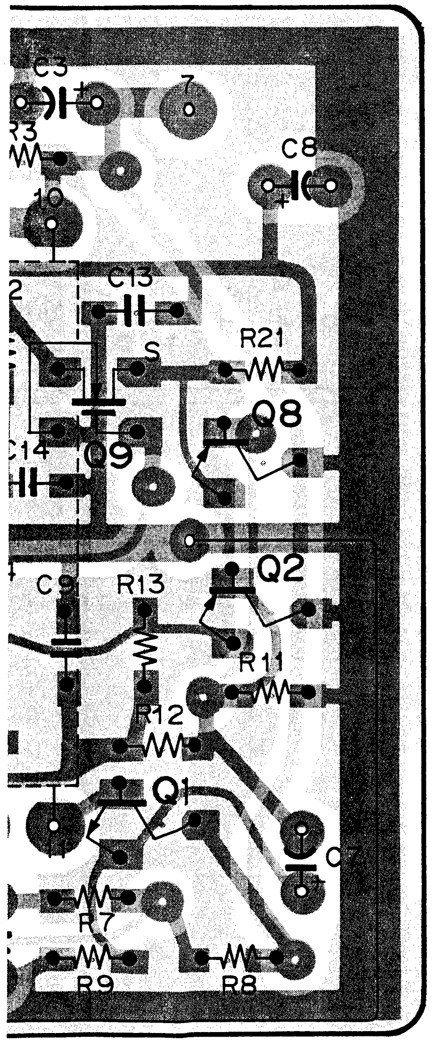

LP1
4
6
3
2
1
Q16
R10
R32
13
CV1
14
15
16
R20
Q7
C16
R33
Q15
R31
R30
C19
C12
Q6
C15
R5
9V
C4
12
11
10
9
8
C1
C2
C3
7
R1
R2
R3
C8
5
R29
Q14
Q12
R28
R27
R24
Q13
R25
R26
Q11
Q10
R22
R23
C13
R21
S
Q9
C14
Q8
IC1
Q3
R18
Q5
R16
C11
R14
C9
R13
Q2
R11
R12
R19
R17
Q4
C10
R15
Q1
C7
20
19
18
17
15
R6
C6
C17
R4
C5
R7
R9
R8

PA-40(R)(B) BOARD

-SOLDERING SIDE-

1-617-363-11

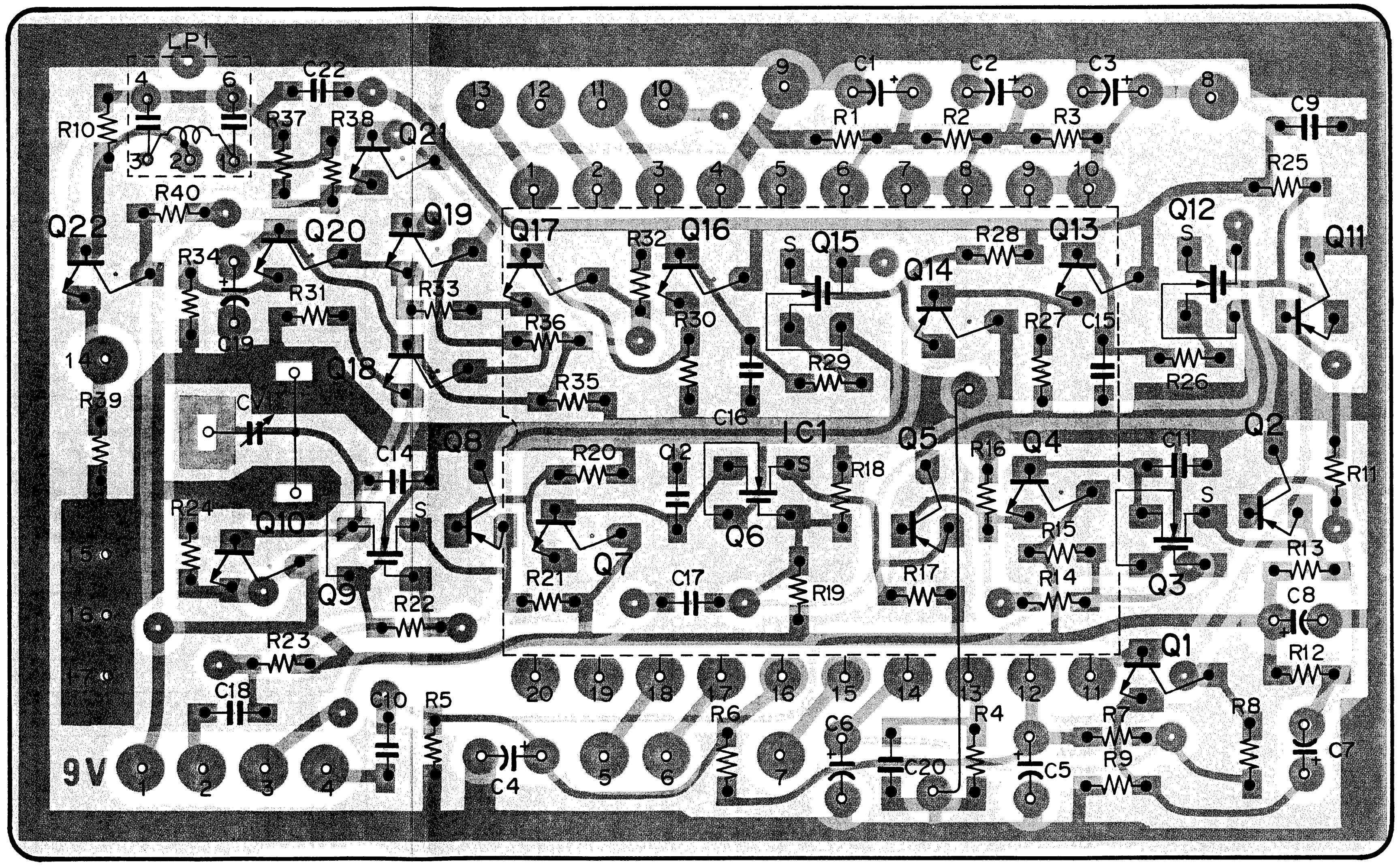
DXC-3000 (J,UC)
DXC-3000P(EK)


C3
7
R3
C8
10
C13
R21
S
Q8
C14
Q9
C9
R13
Q2
R11
R12
Q1
R7
R9
R8
C7

A-40(R)(B) BOARD

OLDERING SIDE-

17-363-11
C-3000 (J,UC)
C-3000P(E K)

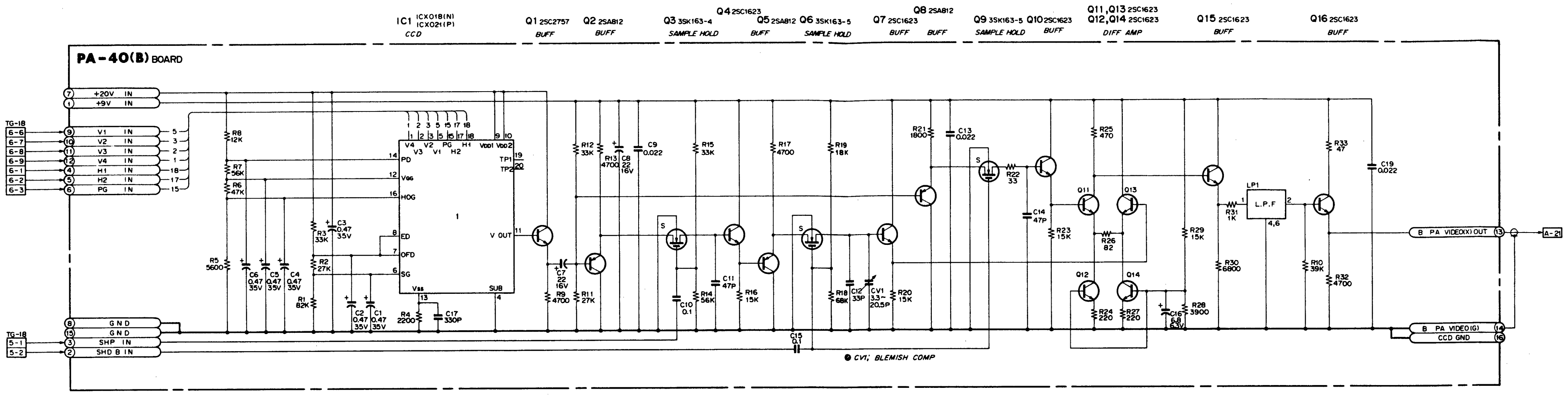

LP1
C22
R10
R37
R38
Q21
R40
Q22
Q20
Q19
R34
R31
R33
Q18
C19
R39
C14
Q8
R24
Q10
Q9
R22
R23
C18
C10
R5
C4
9V
Q17
R32
Q16
Q15
Q14
R28
Q13
Q12
Q11
C1
C2
C3
R1
R2
R3
C9
R25
R36
R30
R29
R27
C15
R26
R35
C16
IC1
R20
C12
R18
Q6
Q7
R21
C17
R19
Q5
R16
Q4
R15
R14
R17
C11
Q2
R11
Q3
R13
C8
R12
Q1
R6
R4
R7
R8
R9
C6
C20
C5
C7
S

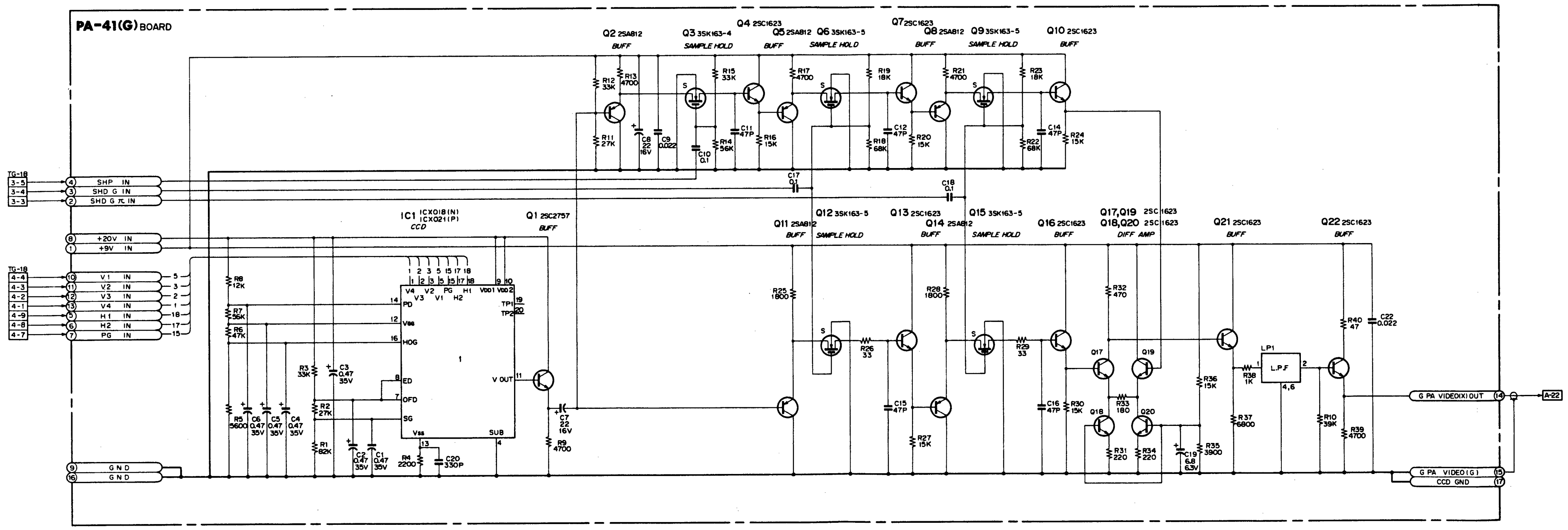
PA-41(G) BOARD

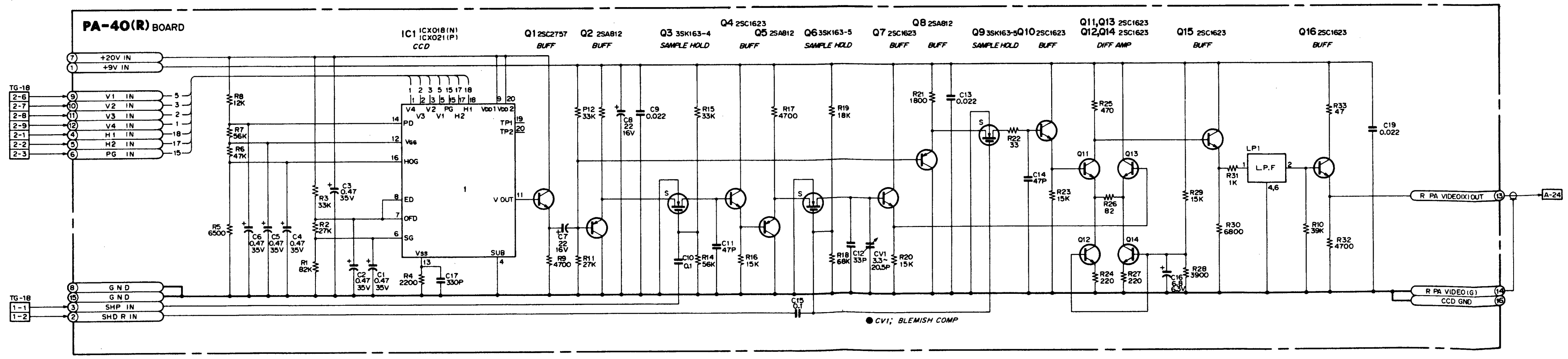
-SOLDERING SIDE-

1-617-364-11
DXC-3000 (J,UC)
DXC-3000P(E K)

PA-40 BOARD
PA-41 BOARD


PA-40(B) BOARD
IC1 ICX018(N) ICX021(P) CCD
Q1 2SC2757 BUFF
Q2 2SA812 BUFF
Q3 3SK163-4 SAMPLE HOLD
Q4 2SC1623
Q5 2SA812 BUFF
Q6 3SK163-5 SAMPLE HOLD
Q7 2SC1623 BUFF
Q8 2SA812 BUFF
Q9 3SK163-5 SAMPLE HOLD
Q10 2SC1623 BUFF
Q11,Q13 2SC1623
Q12,Q14 2SC1623 DIFF AMP
Q15 2SC1623 BUFF
Q16 2SC1623 BUFF
TG-18
6-6
6-7
6-8
6-9
6-1
6-2
6-3
+20V IN
+9V IN
V1 IN
V2 IN
V3 IN
V4 IN
H1 IN
H2 IN
PG IN
GND
GND
SHP IN
SHD B IN
5-1
5-2
L.P.F
LP1
B PA VIDEO(X) OUT
B PA VIDEO(G)
CCD GND
A-21
● CV1; BLEMISH COMP


PA-41(G) BOARD
Q2 2SA812 BUFF
Q3 3SK163-4 SAMPLE HOLD
Q4 2SC1623
Q5 2SA812 BUFF
Q6 3SK163-5 SAMPLE HOLD
Q7 2SC1623
Q8 2SA812 BUFF
Q9 3SK163-5 SAMPLE HOLD
Q10 2SC1623 BUFF
IC1 ICX018(N) ICX021(P) CCD
Q1 2SC2757 BUFF
Q11 2SA812 BUFF
Q12 3SK163-5 SAMPLE HOLD
Q13 2SC1623
Q14 2SA812 BUFF
Q15 3SK163-5 SAMPLE HOLD
Q16 2SC1623 BUFF
Q17,Q19 2SC1623
Q18,Q20 2SC1623 DIFF AMP
Q21 2SC1623 BUFF
Q22 2SC1623 BUFF
TG-18
3-5
3-4
3-3
SHP IN
SHD G IN
SHD G PL IN
+20V IN
+9V IN
4-4
4-3
4-2
4-1
4-9
4-8
4-7
V1 IN
V2 IN
V3 IN
V4 IN
H1 IN
H2 IN
PG IN
GND
GND
L.P.F
LP1
G PA VIDEO(X) OUT
G PA VIDEO(G)
CCD GND
A-22

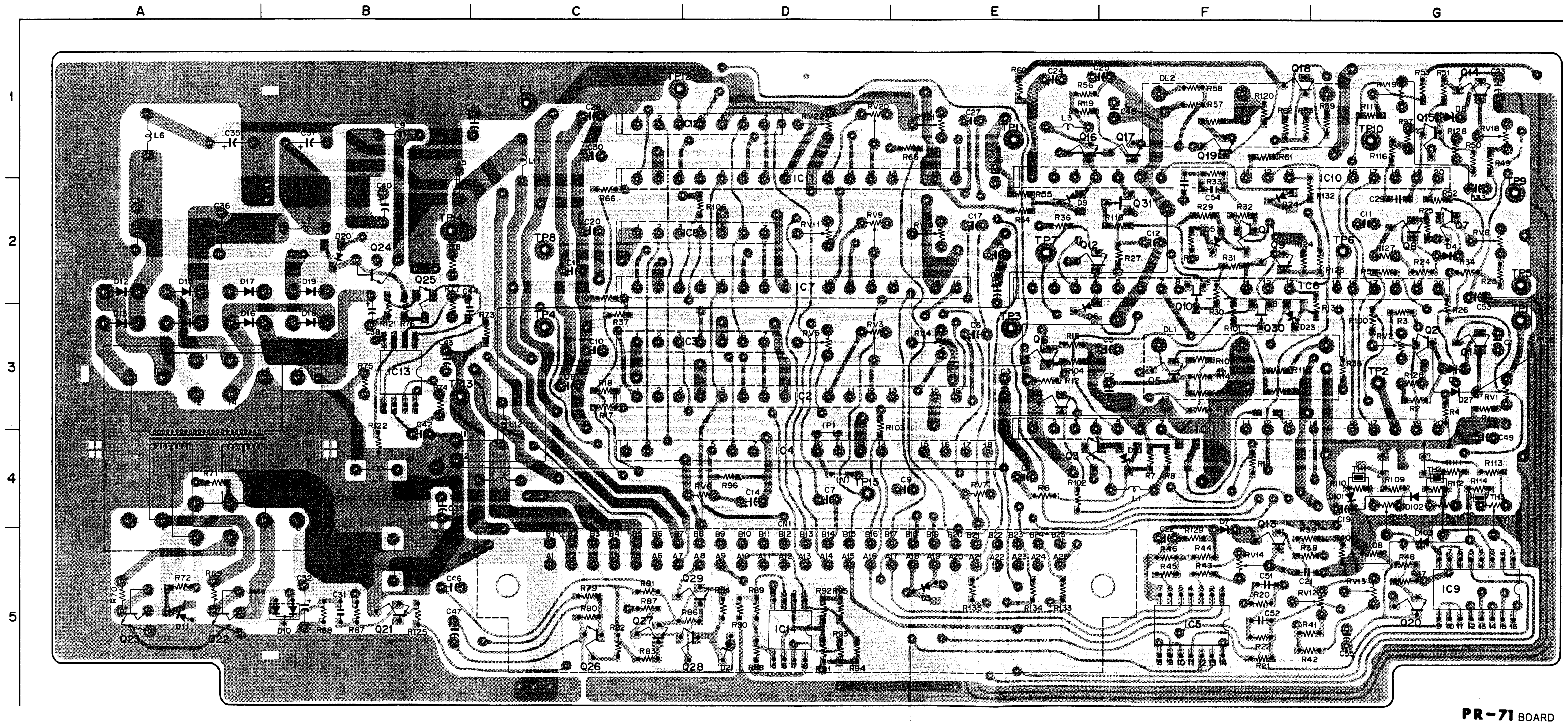

PA-40(R) BOARD
IC1 ICX018(N) ICX021(P) CCD
Q1 2SC2757 BUFF
Q2 2SA812 BUFF
Q3 3SK163-4 SAMPLE HOLD
Q4 2SC1623
Q5 2SA812 BUFF
Q6 3SK163-5 SAMPLE HOLD
Q7 2SC1623 BUFF
Q8 2SA812 BUFF
Q9 3SK163-5 SAMPLE HOLD
Q10 2SC1623 BUFF
Q11,Q13 2SC1623
Q12,Q14 2SC1623 DIFF AMP
Q15 2SC1623 BUFF
Q16 2SC1623 BUFF
TG-18
2-6
2-7
2-8
2-9
2-1
2-2
2-3
+20V IN
+9V IN
V1 IN
V2 IN
V3 IN
V4 IN
H1 IN
H2 IN
PG IN
GND
GND
SHP IN
SHD R IN
1-1
1-2
L.P.F
LP1
R PA VIDEO(X) OUT
R PA VIDEO(G)
CCD GND
A-24
● CV1; BLEMISH COMP

PA-40 BOARD

PA-41 BOARD

DXC-3000 (J,UC)
DXC-3000P (EK)

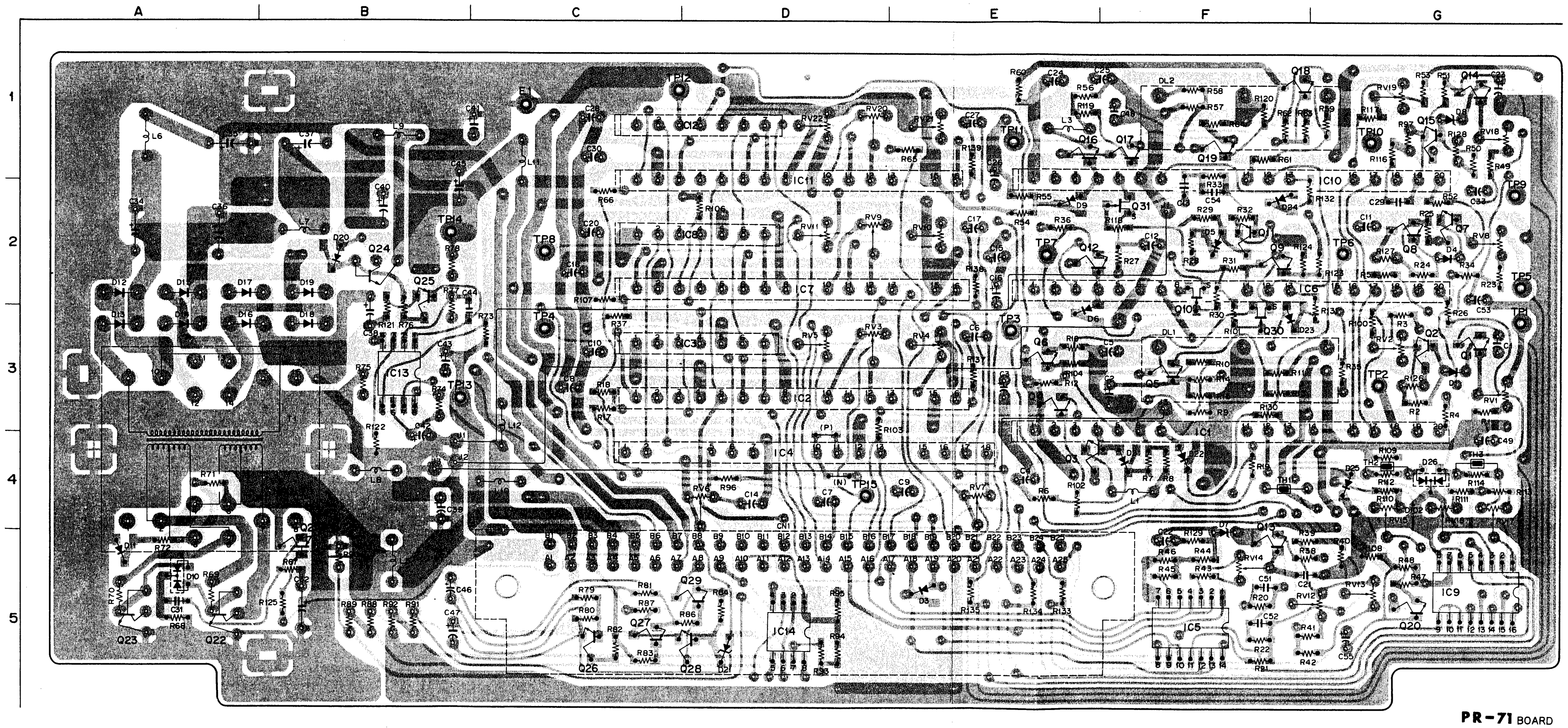
PR-71 BOARD



CN1	D-5
D1	G-3
D2	F-4
D3	E-5
D4	G-2
D5	F-2
D6	E-3
D7	F-5
D8	G-1
D9	E-2
D10	B-5
D11	A-5
D12	A-2
D13	A-3
D14	A-3
D15	A-2
D16	A-3
D17	A-2
D18	B-3
D19	B-2
D20	B-2
D21	D-5
D23	F-3
D24	F-2
D25	G-4
D26	G-4
D101	G-4
D102	G-4
D103	G-5
DL1	F-3
DL2	F-1
E1	C-1
IC1	F-3
IC2	D-3
IC3	D-3
IC4	D-4
IC5	F-5
IC6	F-2
IC7	D-2
IC8	D-2
IC9	G-5
IC10	F-1
IC11	D-2
IC12	D-1
IC13	B-3
IC14	D-5
Q1	G-3
Q2	G-3
Q3	E-4
Q4	E-3
Q5	F-3
Q6	E-3
Q7	G-2
Q8	G-2
Q9	F-2
Q10	F-2
Q11	F-2
Q12	E-2
Q13	F-5
Q14	G-1
Q15	G-1
Q16	E-1
Q17	F-1
Q18	F-1
Q19	F-1
Q20	G-5
Q21	B-5
Q22	A-5
Q23	A-5
Q24	B-2
Q25	B-2
Q26	C-5
Q27	C-5
Q28	D-5
Q29	D-5
Q30	F-3
Q31	F-2
RV1	G-3
RV2	G-3
RV3	D-3
RV4	E-3
RV5	D-3
RV6	D-4
RV7	E-4
RV8	G-2
RV9	D-2
RV10	E-2
RV11	D-2
RV12	G-5
RV13	G-5
RV14	F-5
RV15	G-4
RV16	G-4
RV17	G-4
RV18	G-1
RV19	G-1
RV20	D-1
RV21	E-1
RV22	D-1
T1	A-4
TH1	G-4
TH2	G-4
TH3	G-4
TP1	G-3
TP2	G-3
TP3	E-3
TP4	C-3
TP5	G-2
TP6	G-2
TP7	E-2
TP8	C-2
TP9	G-2
TP10	G-1
TP11	E-1
TP12	C-1
TP13	B-3
TP14	B-2
TP15	D-4

PR-71 BOARD
-SOLDERING SIDE-
1-617-354-11
DXC-3000 (J,UC)
DXC-3000P(E K)

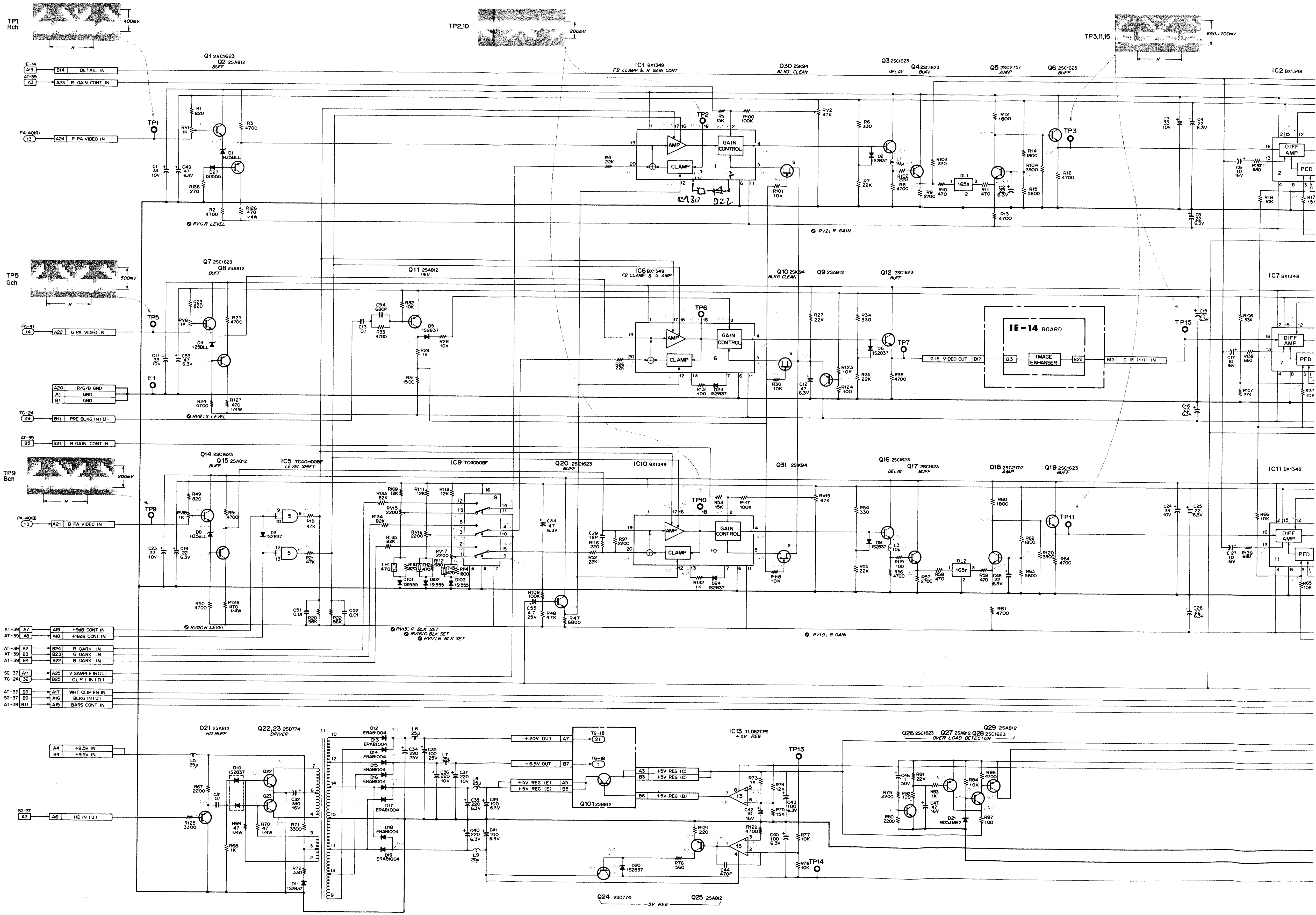
PR-71 BOARD

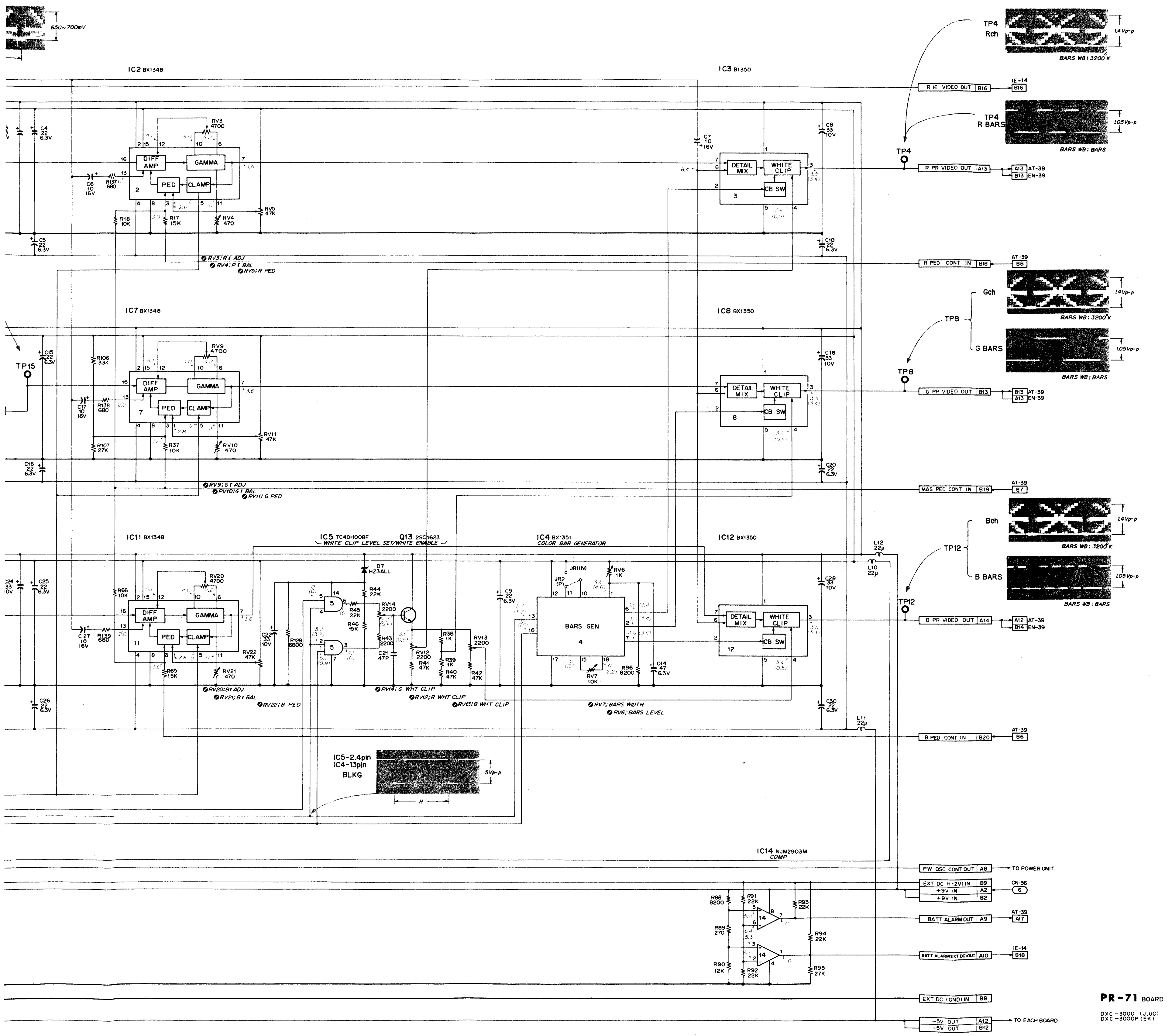

A
B
C
D
E
F
G
1
2
3
4
5
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
CN1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
E1

PR-71 BOARD
-SOLDERING SIDE-
1-617-354-12
DXC-3000 (J,UC)
DXC-3000P (EK)

CN1	D-5
D1	G-3
D2	F-4
D3	E-5
D4	G-2
D5	F-2
D6	E-3
D7	F-5
D8	G-1
D9	E-2
D10	B-5
D11	A-5
D12	A-2
D13	A-3
D14	A-3
D15	A-2
D16	A-3
D17	A-2
D18	B-3
D19	B-2
D20	B-2
D21	D-5
D22	F-4
D23	F-3
D24	F-2
D25	G-4
D26	G-4
D101	G-4
D102	G-4
D103	G-5
DL1	F-3
DL2	F-1
E1	C-1
IC1	F-3
IC2	D-3
IC3	D-3
IC4	D-4
IC5	F-5
IC6	F-2
IC7	D-2
IC8	D-2
IC9	G-5
IC10	F-1
IC11	D-2
IC12	D-1
IC13	B-3
IC14	D-5
Q1	G-3
Q2	G-3
Q3	E-4
Q4	E-3
Q5	F-3
Q6	E-3
Q7	G-2
Q8	G-2
Q9	F-2
Q10	F-2
Q11	F-2
Q12	E-2
Q13	F-5
Q14	G-1
Q15	G-1
Q16	E-1
Q17	F-1
Q18	F-1
Q19	F-1
Q20	G-5
Q21	B-5
Q22	A-5
Q23	A-5
Q24	B-2
Q25	B-2
Q26	C-5
Q27	C-5
Q28	D-5
Q29	D-5
Q30	F-3
Q31	F-2
RV1	G-3
RV2	G-3
RV3	D-3
RV4	E-3
RV5	D-3
RV6	D-4
RV7	E-4
RV8	G-2
RV9	D-2
RV10	E-2
RV11	D-2
RV12	G-5
RV13	G-5
RV14	F-5
RV15	G-4
RV16	G-4
RV17	G-4
RV18	G-1
RV19	G-1
RV20	D-1
RV21	E-1
RV22	D-1
T1	A-4
TH1	G-4
TH2	G-4
TH3	G-4
TP1	G-3
TP2	G-3
TP3	E-3
TP4	C-3
TP5	G-2
TP6	G-2
TP7	E-2
TP8	C-2
TP9	G-2
TP10	G-1
TP11	E-1
TP12	C-1
TP13	B-3
TP14	B-2
TP15	D-4

PR-71 BOARD


TP1 Rch
400mV
H
TP2,10
200mV
TP3,11,15
650~700mV
TP5 Gch
500mV
TP9 Bch
200mV
DETAIL IN
R GAIN CONT IN
R PA VIDEO IN
G PA VIDEO IN
B PA VIDEO IN
R/G/B GND
GND
PRE BLKG IN
B GAIN CONT IN
+9dB CONT IN
+18dB CONT IN
R DARK IN
G DARK IN
B DARK IN
V SAMPLE IN
CLP I IN
WHT CLIP EN IN
BLKG IN
BARS CONT IN
+9.5V IN
HD IN
Q1 2SC1623
Q2 2SA812
BUFF
IC1 BX1349
FB CLAMP & R GAIN CONT
Q30 2SK94
BLKG CLEAN
Q3 2SC1623
DELAY
Q4 2SC1623
BUFF
Q5 2SC2757
AMP
Q6 2SC1623
BUFF
IC2 BX1348
AMP
CLAMP
GAIN CONTROL
DIFF AMP
PED
C130 D22
RV1; R LEVEL
RV2; R GAIN
Q7 2SC1623
Q8 2SA812
BUFF
Q11 2SA812
INV
IC6 BX1349
FB CLAMP & G AMP
Q10 2SK94
BLKG CLEAN
Q9 2SA812
Q12 2SC1623
BUFF
IC7 BX1348
IE-14 BOARD
IMAGE ENHANSER
G IE VIDEO OUT
G IE (1H) IN
RV8; G LEVEL
Q14 2SC1623
Q15 2SA812
BUFF
IC5 TC40H008F
LEVEL SHIFT
IC9 TC4050BF
Q20 2SC1623
BUFF
IC10 BX1349
Q31 2SK94
Q16 2SC1623
DELAY
Q17 2SC1623
BUFF
Q18 2SC2757
AMP
Q19 2SC1623
BUFF
IC11 BX1348
RV18; B LEVEL
RV15; R BLK SET
RV16; G BLK SET
RV17; B BLK SET
RV19; B GAIN
Q21 2SA812
HD BUFF
Q22,23 2SD774
DRIVER
T1
+20V OUT
+6.5V OUT
+5V REG (E)
+5V REG (C)
+5V REG (B)
Q101 2SB812
IC13 TL062CPS
+5V REG
Q26 2SC1623
Q27 2SA812
Q28 2SC1623
Q29 2SA812
OVER LOAD DETECTOR
Q24 2SD774
Q25 2SA812
-5V REG
TP1
TP2
TP3
TP5
TP6
TP7
TP9
TP10
TP11
TP13
TP14
TP15
E1


650~700mV
IC2 BX1348
IC3 B1350
IC7 BX1348
IC8 BX1350
IC11 BX1348
IC12 BX1350
DIFF AMP
GAMMA
PED
CLAMP
DETAIL MIX
WHITE CLIP
CB SW
RV3 4700
RV4 470
RV5 47K
R18 10K
R17 15K
C4 22 6.3V
C5 22 6.3V
C6 10 16V
R137 680
C7 10 16V
C8 33 10V
C10 22 6.3V
RV3: R γ ADJ
RV4: R γ BAL
RV5: R PED
RV9 4700
RV10 470
RV11 47K
R106 33K
R107 27K
R37 10K
R138 680
C15 22 6.3V
C16 22 6.3V
C17 10 16V
C18 33 10V
C20 22 6.3V
TP15
RV9: G γ ADJ
RV10: G γ BAL
RV11: G PED
RV20 4700
RV21 470
RV22 47K
R66 10K
R65 15K
R139 680
C24 33 10V
C25 22 6.3V
C26 22 6.3V
C27 10 16V
C28 33 10V
C30 22 6.3V
RV20: B γ ADJ
RV21: B γ BAL
RV22: B PED
IC5 TC40H008F
Q13 2SC1623
WHITE CLIP LEVEL SET/WHITE ENABLE
D7 HZ3ALL
R44 22K
R45 22K
R46 15K
R43 2200
RV14 2200
RV12 2200
RV13 2200
R38 1K
R39 1K
R40 47K
R41 47K
R42 47K
C21 47P
C22 33 10V
R129 6800
RV14: G WHT CLIP
RV12: R WHT CLIP
RV13: B WHT CLIP
IC4 BX1351
COLOR BAR GENERATOR
BARS GEN
JR1(N)
JR2 (P)
RV6 1K
RV7 10K
R96 8200
C9 22 6.3V
C14 47 6.3V
RV7: BARS WIDTH
RV6: BARS LEVEL
IC5-2.4pin
IC4-13pin
BLKG
5Vp-p
H
L10 22μ
L11 22μ
L12 22μ
TP4
Rch
1.4Vp-p
BARS WB: 3200°K
TP4
R BARS
1.05Vp-p
BARS WB: BARS
TP8
Gch
G BARS
TP12
Bch
B BARS
R IE VIDEO OUT B16
IE-14 B16
R PR VIDEO OUT A13
A13 AT-39
B13 EN-39
R PED CONT IN B18
AT-39 B8
G PR VIDEO OUT B13
B13 AT-39
A13 EN-39
MAS PED CONT IN B19
AT-39 B7
B PR VIDEO OUT A14
A12 AT-39
B14 EN-39
B PED CONT IN B20
AT-39 B6
IC14 NJM2903M
COMP
R88 8200
R89 270
R90 12K
R91 22K
R92 22K
R93 22K
R94 22K
R95 27K
PW OSC CONT OUT A8
TO POWER UNIT
EXT DC (+12V) IN B9
+9V IN A2
+9V IN B2
CN-36 6
BATT ALARM OUT A9
AT-39 A17
BATT ALARM(EXT DC)OUT A10
IE-14 B18
EXT DC (GND) IN B8
-5V OUT A12
-5V OUT B12
TO EACH BOARD
PR-71 BOARD
DXC-3000 (J,UC)
DXC-3000P (EK)

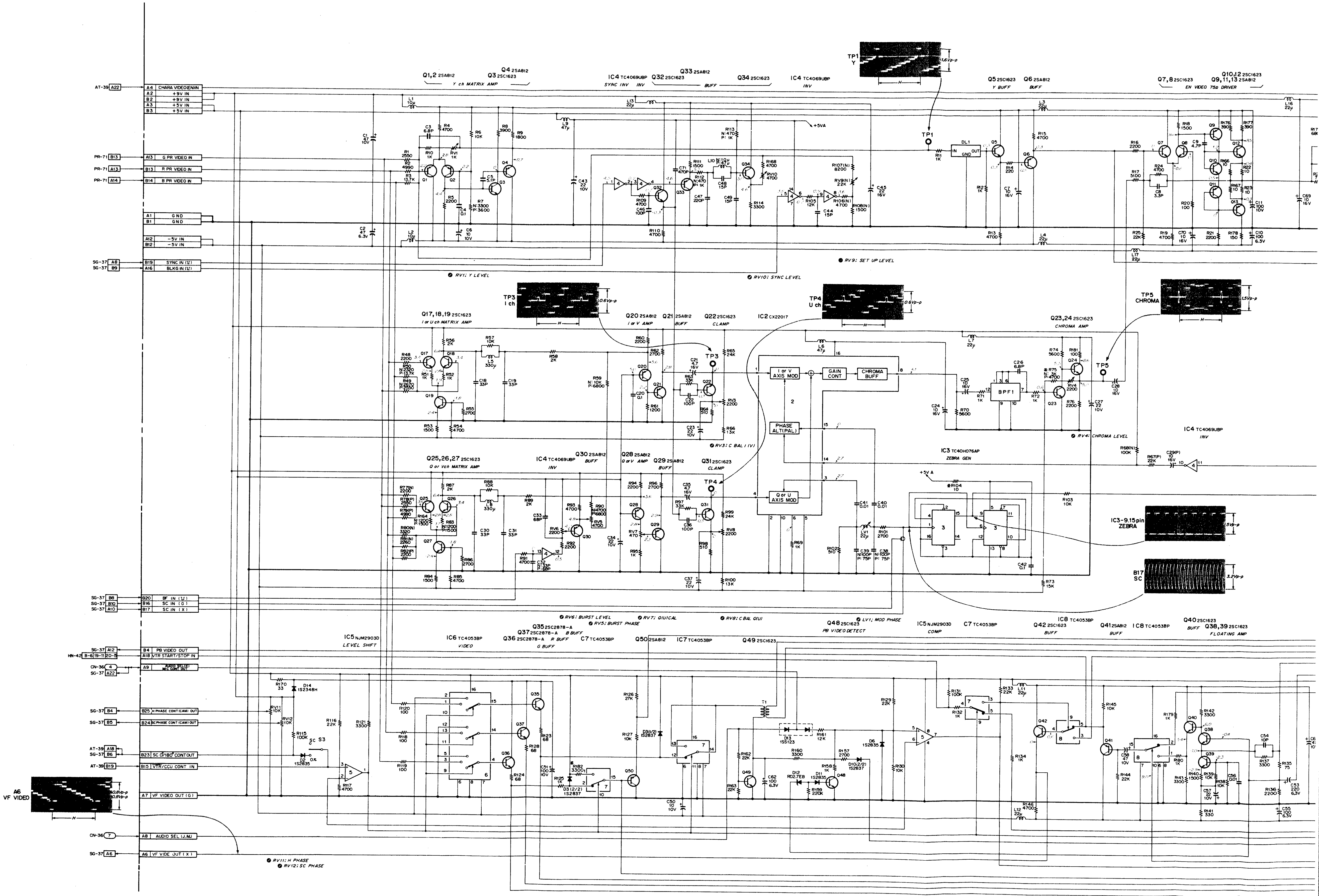
注意：

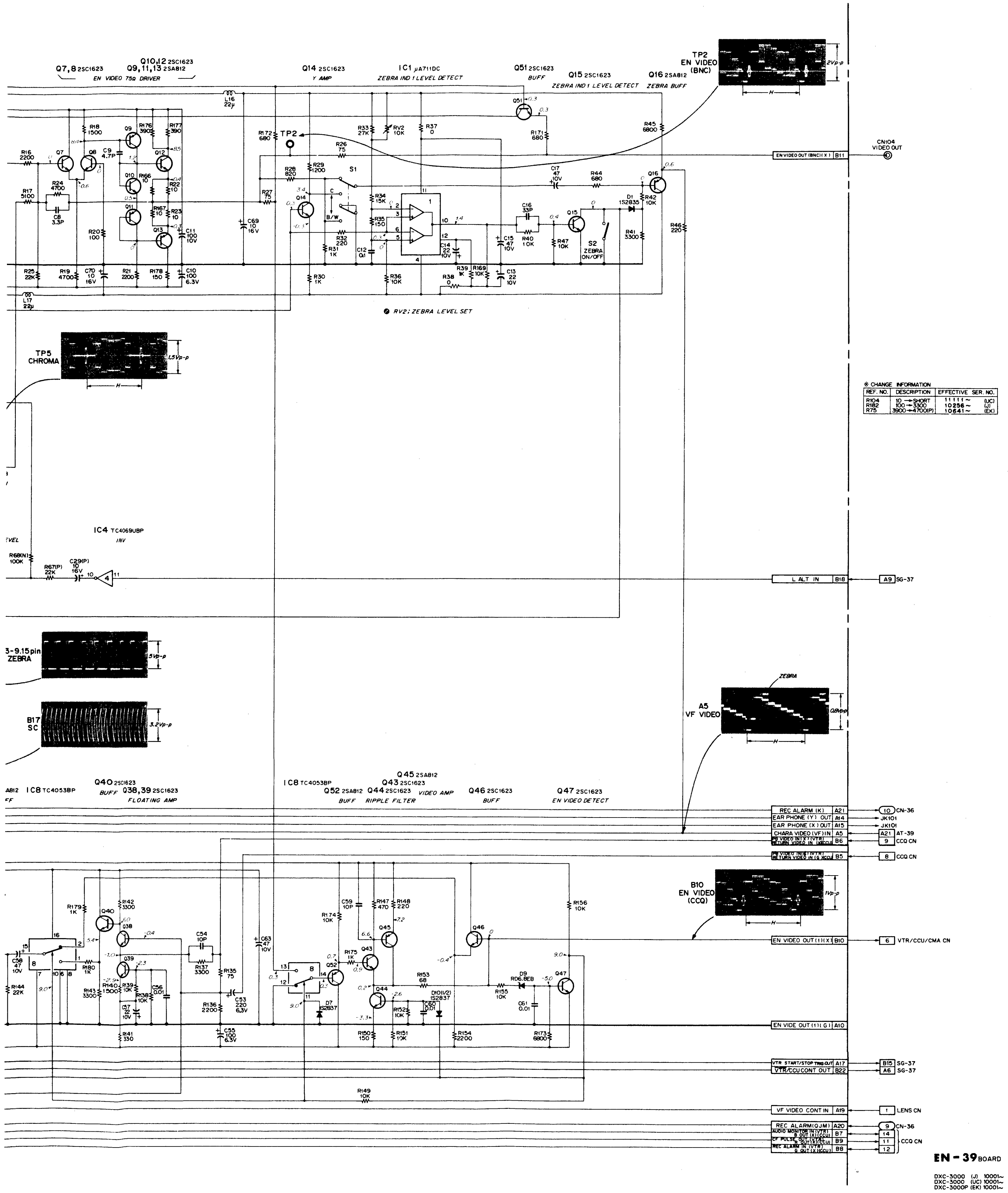
1. DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。
2. 波形写真及びDC電圧は下記条件で測定。
   - ●FILTER切り換えつまみ→1位置
   - ●BARS/WBスイッチ→3200°K位置
   - ●GAIN切り換えスイッチ→0 dB位置
   - ●グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様に、レンズ絞りをセットする。
3. ( )内のDC電圧は下記条件で測定。
   - ●BARS/WBスイッチ→BARS位置

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - • Set camera FILTER selector to 1 position.
   - • Set camera BARS/WB selector to 3200°K position.
   - • Set camera GAIN selector to 0 dB position.
   - • Shoot the gray scale pattern on the pattern box. Adjust lens iris so that a white level is 100 IRE using the waveform monitor
   - • DC voltage in parentheses ( ) is mesured in condition below.
   - • Set camera BARS/WB selector to BARS position.

EN-39 BOARD


AT-39 A22
A4 CHARA VIDEO(EN)IN
A2 +9V IN
B2 +9V IN
A3 +5V IN
B3 +5V IN
PR-71 B13
PR-71 A13
PR-71 A14
A13 G PR VIDEO IN
B13 R PR VIDEO IN
B14 B PR VIDEO IN
A1 GND
B1 GND
A12 -5V IN
B12 -5V IN
SG-37 A8
SG-37 B9
B19 SYNC IN (U)
A16 BLKG IN (U)
Q1,2 2SA812
Q3 2SC1623
Q4 2SA812
Y ch MATRIX AMP
IC4 TC4069UBP
SYNC INV
INV
Q32 2SC1623
Q33 2SA812
BUFF
Q34 2SC1623
IC4 TC4069UBP
INV
TP1 Y
1.6Vp-p
H
Q5 2SC1623
Y BUFF
Q6 2SA812
BUFF
Q7,8 2SC1623
Q10,12 2SC1623
Q9,11,13 2SA812
EN VIDEO 75Ω DRIVER
+5VA
TP1
DL1
RV1: Y LEVEL
RV10: SYNC LEVEL
RV9: SET UP LEVEL
TP3 I ch
0.6Vp-p
TP4 U ch
0.6Vp-p
TP5 CHROMA
1.5Vp-p
Q17,18,19 2SC1623
I or U ch MATRIX AMP
Q20 2SA812
I or V AMP
Q21 2SA812
BUFF
Q22 2SC1623
CLAMP
IC2 CX22017
Q23,24 2SC1623
CHROMA AMP
TP3
I or V AXIS MOD
GAIN CONT
CHROMA BUFF
BPF1
PHASE ALT(PAL)
Q or U AXIS MOD
TP4
TP5
RV3: C BAL I (V)
RV4: CHROMA LEVEL
Q25,26,27 2SC1623
Q or V ch MATRIX AMP
IC4 TC4069UBP
INV
Q30 2SA812
BUFF
Q28 2SA812
Q or V AMP
Q29 2SA812
BUFF
Q31 2SC1623
CLAMP
IC3 TC40H076AP
ZEBRA GEN
IC4 TC4069UBP
INV
IC3-9.15pin ZEBRA
1.5Vp-p
B17 SC
3.2Vp-p
SG-37 B8
SG-37 B10
SG-37 A10
B20 BF IN (U)
B16 SC IN (G)
B17 SC IN (X)
RV6: BURST LEVEL
RV5: BURST PHASE
RV7: Q(U)CAL
RV8: C BAL Q(U)
LV1: MOD PHASE
IC5 NJM2903D
LEVEL SHIFT
IC6 TC4053BP
VIDEO
Q35 2SC2878-A
B BUFF
Q37 2SC2878-A
R BUFF
Q36 2SC2878-A
G BUFF
C7 TC4053BP
Q50 2SA812
IC7 TC4053BP
Q49 2SC1623
Q48 2SC1623
PB VIDEO DETECT
IC5 NJM2903D
COMP
C7 TC4053BP
Q42 2SC1623
BUFF
IC8 TC4053BP
Q41 2SA812
BUFF
IC8 TC4053BP
Q40 2SC1623
BUFF
Q38,39 2SC1623
FLOATING AMP
SG-37 A12
HN-42 B-6(19-11)20-5
CN-36 4
SG-37 A22
B4 PB VIDEO OUT
A18 VTR START/STOP IN
A9 AUDIO SEL (U) MIC CONT OUT
SG-37 B4
SG-37 B5
B25 H PHASE CONT (CAM) OUT
B24 SC PHASE CONT (CAM) OUT
AT-39 A18
SG-37 B6
AT-39 B19
B23 SC 0/180° CONT OUT
B15 VTR/CCU CONT IN
A6 VF VIDEO
0.8Vp-p
A7 VF VIDEO OUT (G)
CN-36 7
SG-37 A6
A8 AUDIO SEL (J.M.)
A6 VF VIDE OUT (X)
SC S3
RV11: H PHASE
RV12: SC PHASE


Q7,8 2SC1623
Q10,12 2SC1623
Q9,11,13 2SA812
EN VIDEO 75Ω DRIVER
Q14 2SC1623
Y AMP
IC1 μA711DC
ZEBRA IND 1 LEVEL DETECT
Q51 2SC1623
BUFF
Q15 2SC1623
ZEBRA IND 1 LEVEL DETECT
Q16 2SA812
ZEBRA BUFF
TP2
EN VIDEO
(BNC)
2Vp-p
H
TP2
S1
B/W
S2
ZEBRA
ON/OFF
RV2: ZEBRA LEVEL SET
CN104
VIDEO OUT
EN VIDEO OUT (BNC)(1 X) B11
TP5
CHROMA
1.5Vp-p
IC4 TC4069UBP
INV
L ALT IN B18
A9 SG-37
3-9.15pin
ZEBRA
B17
SC
3.2Vp-p
A5
VF VIDEO
ZEBRA
IC8 TC4053BP
Q40 2SC1623
BUFF
Q38,39 2SC1623
FLOATING AMP
Q45 2SA812
Q43 2SC1623
Q52 2SA812
Q44 2SC1623
BUFF
RIPPLE FILTER
VIDEO AMP
Q46 2SC1623
BUFF
Q47 2SC1623
EN VIDEO DETECT
REC ALARM (K) A21
EAR PHONE (Y) OUT A14
EAR PHONE (X) OUT A15
CHARA VIDEO (VF) IN A5
B6
B5
10 CN-36
JK101
JK101
A21 AT-39
9 CCQ CN
8 CCQ CN
B10
EN VIDEO
(CCQ)
EN VIDEO OUT (1)(X) B10
6 VTR/CCU/CMA CN
EN VIDEO OUT (1)(G) A10
VTR START/STOP TRIG OUT A17
VTR/CCU/CONT OUT B22
B15 SG-37
A6 SG-37
VF VIDEO CONT IN A19
1 LENS CN
REC ALARM (G)(M) A20
B7
B9
B8
9 CN-36
14
11
12
CCQ CN

※ CHANGE INFORMATION

REF. NO.	DESCRIPTION	EFFECTIVE SER. NO.	
R104	10 →SHORT	11111 ~	(UC)
R182	100 → 3300	10256 ~	(J)
R75	3900 → 4700(P)	10641 ~	(EK)

EN-39 BOARD

DXC-3000 (J) 10001~
DXC-3000 (UC) 10001~
DXC-3000P (EK) 10001~

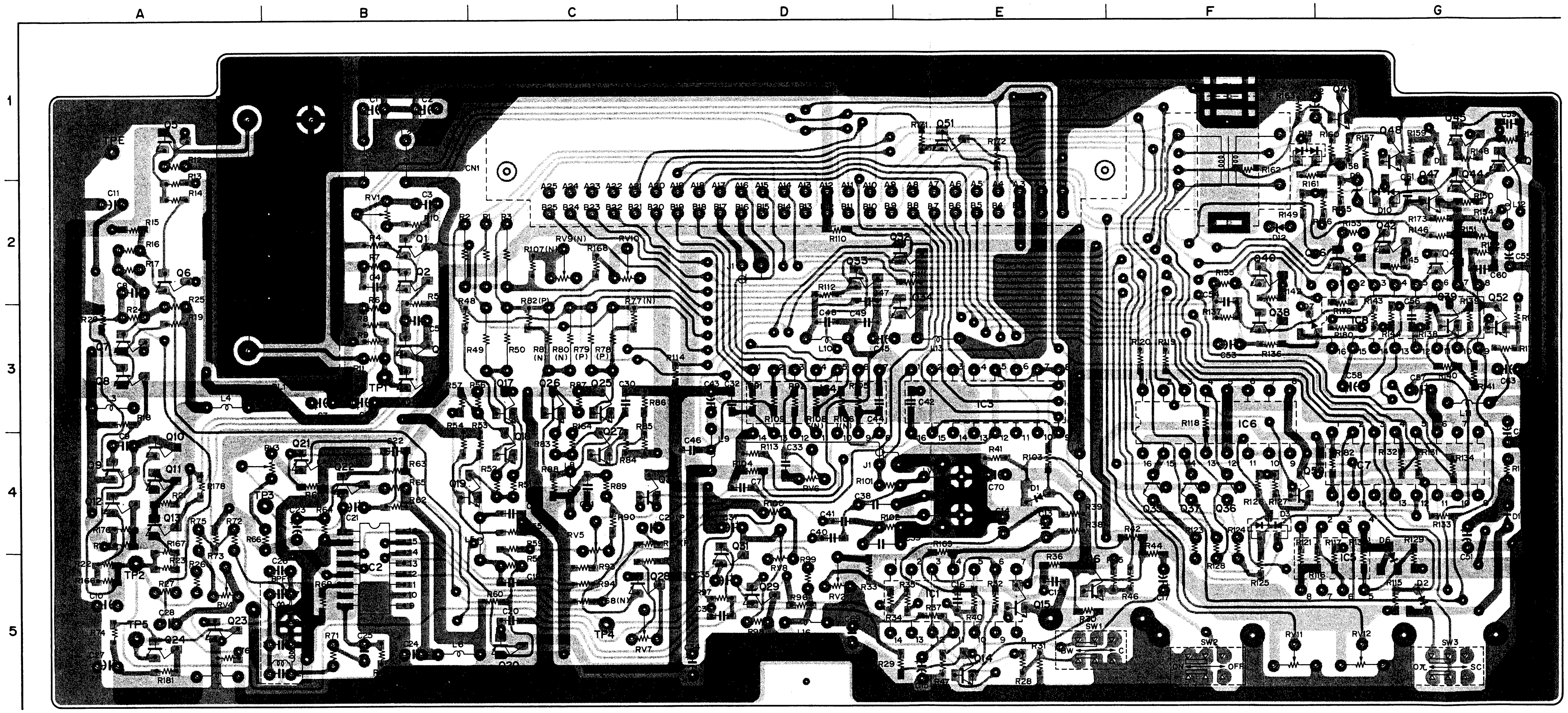
注意：

1．DC 電圧はデジタル電圧計(入力インピーダンス 10 MΩ)による値。
2．波形写真及び DC 電圧は下記条件で測定。
   - BARS/WB スイッチ→ BARS 位置
   - S1(C/BW)/EN-39 基板→ BW 位置
   - S2(ZEBRA ON/OFF)/EN-39 基板→ ON 位置

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - Set camera BARS/WB selector to BARS position.
   - Set camera S1 switch/EN-39 board (C/BW) to BW position.
   - Set camera S2 switch/EN-39 board (ZEBRA ON/OFF) to ON position.

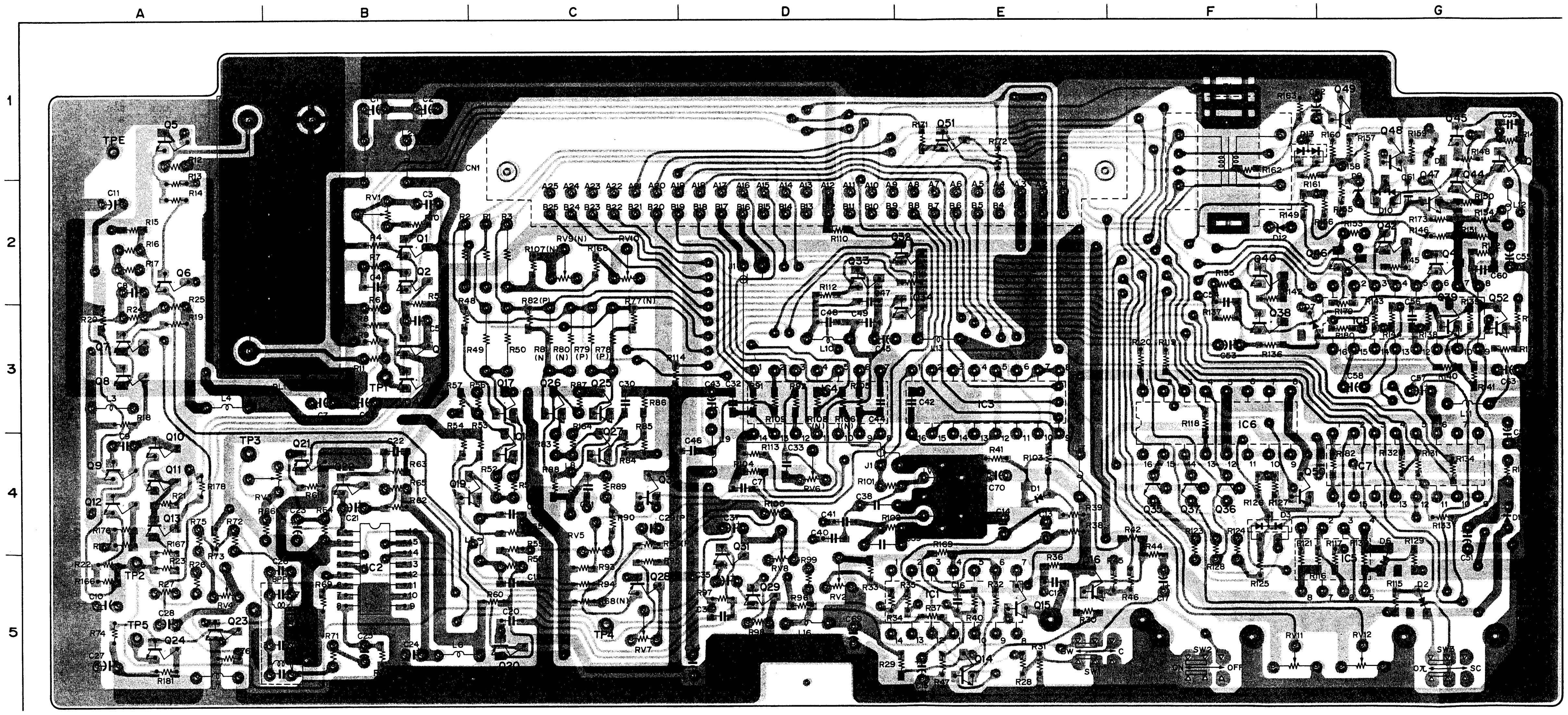
EN-39 BOARD



EN-39 BOARD
-SOLDERING SIDE-
1-617-352-12
DXC-3000 (J,UC)
DXC-3000P (EK)

BPF	B-5
CN1	C-1
D1	E-4
D2	G-5
D3	F-4
D6	G-5
D7	G-3
D9	G-2
D10	G-2
D11	G-1
D12	F-2
D13	F-1
D14	G-4
DL1	B-2
IC1	E-5
IC2	B-5
IC3	E-3
IC4	D-3
IC5	G-5
IC6	E-3
IC7	G-4
IC8	G-3
LV1	E-4
Q1	B-2
Q2	B-2
Q3	B-3
Q4	B-3
Q5	A-1
Q6	A-2
Q7	A-3
Q8	A-3
Q9	A-4
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-4
Q14	E-5
Q15	E-5
Q16	E-5
Q17	C-3
Q18	C-4
Q19	C-4
Q20	C-5
Q21	B-4
Q22	B-4
Q23	A-5
Q24	A-5
Q25	C-3
Q26	C-3
Q27	C-4
Q28	C-5
Q29	D-5
Q30	C-4
Q31	D-5
Q32	E-2
Q33	D-2
Q34	E-3
Q35	F-4
Q36	F-4
Q37	F-4
Q38	F-3
Q39	G-3
Q40	F-2
Q41	G-2
Q42	G-2
Q43	G-1
Q44	G-2
Q45	G-1
Q46	G-2
Q47	G-2
Q48	G-1
Q49	G-1
Q50	F-4
Q51	E-1
Q52	G-3
RV1	B-2
RV2	D-5
RV3	B-4
RV4	A-5
RV5	C-4
RV6	D-4
RV7	C-5
RV8	D-4
RV9	C-2
RV10	C-2
RV11	F-5
RV12	G-5
S1	E-5
S2	F-5
S3	G-5
T1	F-1
TP1	B-3
TP2	A-5
TP3	A-4
TP4	C-5
TP5	A-5
TPE	A-1

EN-39 BOARD

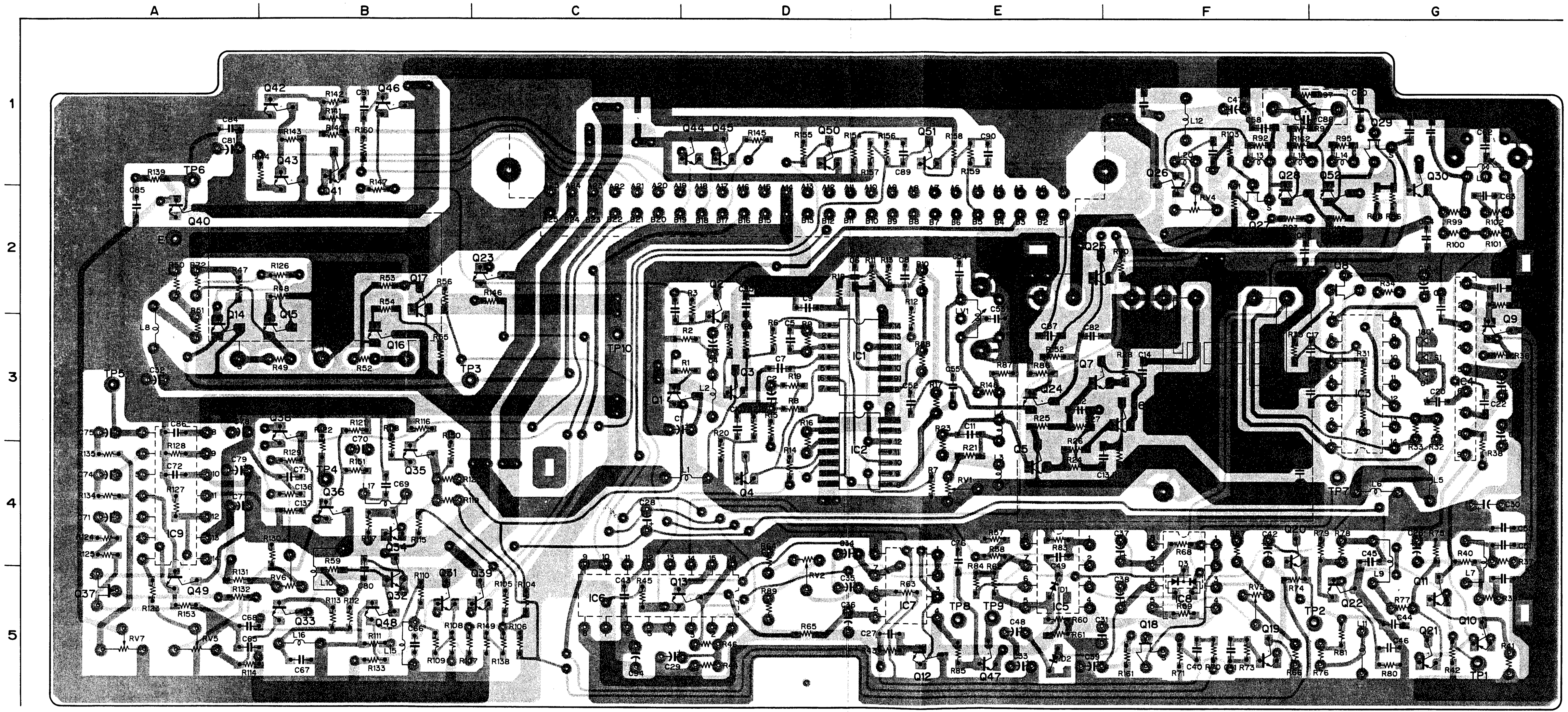

A
B
C
D
E
F
G
1
2
3
4
5
TPE
CN1
IC1
IC2
IC3
IC5
IC6
IC7
IC8
TP1
TP2
TP3
TP4
TP5
SW2
OFF
SW3
SC

BPF	B - 5
CN1	C - 1
D1	E - 4
D2	G - 5
D3	F - 4
D6	G - 5
D7	G - 3
D9	G - 2
D10	G - 2
D11	G - 1
D12	F - 2
D13	F - 1
D14	G - 4
DL1	B - 2
IC1	E - 5
IC2	B - 5
IC3	E - 3
IC4	D - 3
IC5	G - 5
IC6	E - 3
IC7	G - 4
IC8	G - 3
LV1	E - 4
Q1	B - 2
Q2	B - 2
Q3	B - 3
Q4	B - 3
Q5	A - 1
Q6	A - 2
Q7	A - 3
Q8	A - 3
Q9	A - 4
Q10	A - 4
Q11	A - 4
Q12	A - 4
Q13	A - 4
Q14	E - 5
Q15	E - 5
Q16	E - 5
Q17	C - 3
Q18	C - 4
Q19	C - 4
Q20	C - 5
Q21	B - 4
Q22	B - 4
Q23	A - 5
Q24	A - 5
Q25	C - 3
Q26	C - 3
Q27	C - 4
Q28	C - 5
Q29	D - 5
Q30	C - 4
Q31	D - 5
Q32	E - 2
Q33	D - 2
Q34	E - 3
Q35	F - 4
Q36	F - 4
Q37	F - 4
Q38	F - 3
Q39	G - 3
Q40	F - 2
Q41	G - 2
Q42	G - 2
Q43	G - 1
Q44	G - 2
Q45	G - 1
Q46	G - 2
Q47	G - 2
Q48	G - 1
Q49	G - 1
Q50	F - 4
Q51	E - 1
Q52	G - 3
RV1	B - 2
RV2	D - 5
RV3	B - 4
RV4	A - 5
RV5	C - 4
RV6	D - 4
RV7	C - 5
RV8	D - 4
RV9	C - 2
RV10	C - 2
RV11	F - 5
RV12	G - 5
S1	E - 5
S2	F - 5
S3	G - 5
T1	F - 1
TP1	B - 3
TP2	A - 5
TP3	A - 4
TP4	C - 5
TP5	A - 5
TPE	A - 1

EN-39 BOARD
-SOLDERING SIDE-

1-617-352-11
DXC-3000 (J,UC)
DXC-3000P(E K)

IE-14 BOARD

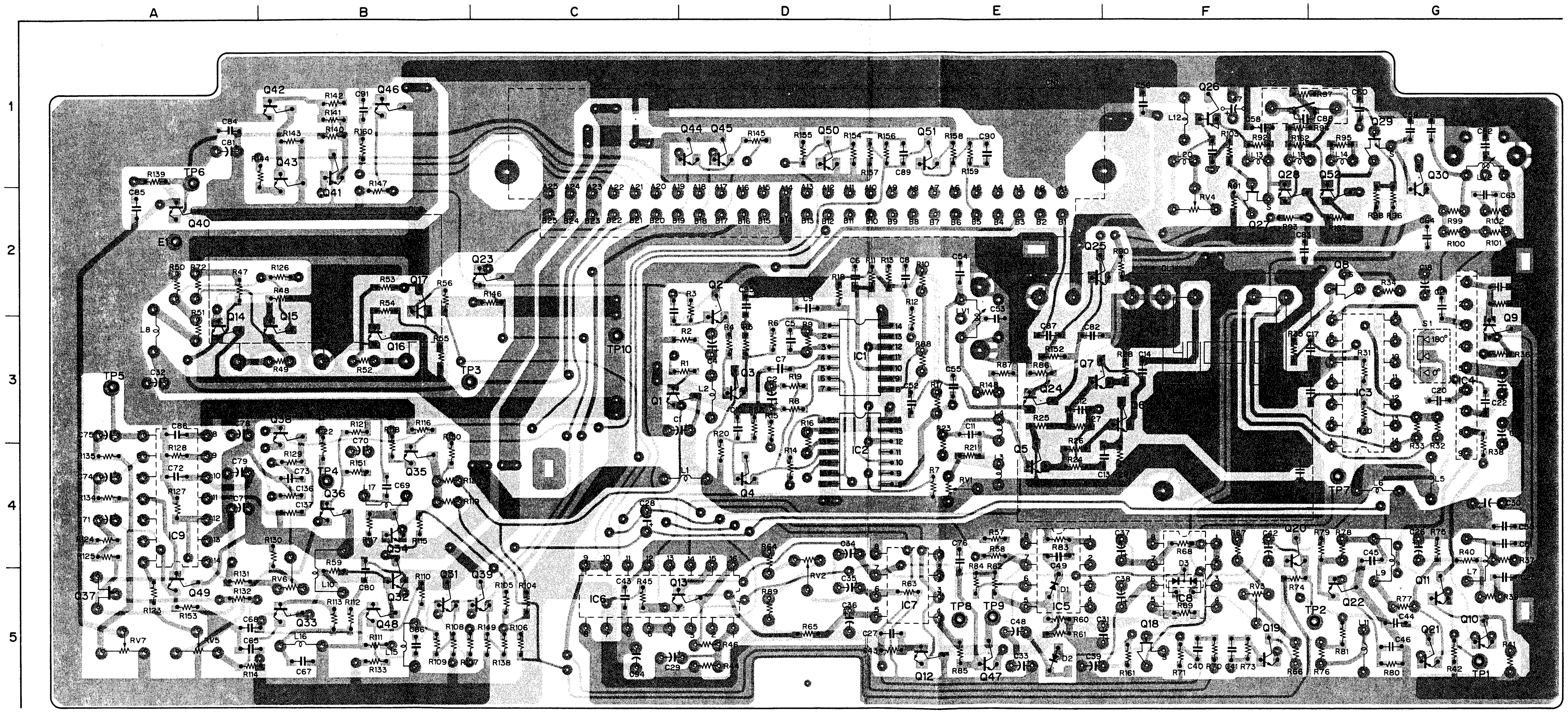

A
B
C
D
E
F
G
1
2
3
4
5
Q42
Q46
R142
C91
Q43
Q41
R139
TP6
C85
Q40
C84
C81
Q44
Q45
R145
Q50
Q51
R155
R156
R158
C90
R157
C89
R159
Q23
Q17
Q14
Q15
Q16
TP3
TP10
TP5
Q38
TP4
Q36
Q35
Q34
Q32
Q33
Q49
Q48
Q31
Q39
Q37
IC9
RV6
RV7
RV5
IC1
IC2
D1
Q3
Q4
Q2
Q1
L1
L2
C28
IC6
Q13
RV2
IC7
TP8
TP9
IC5
Q12
Q47
D2
Q5
RV1
Q24
Q7
Q25
Q26
Q28
Q52
Q27
Q29
Q30
RV4
L12
Q8
Q9
IC3
TP7
Q18
IC8
D3
RV3
Q19
Q20
TP2
Q22
Q11
Q10
TP1
Q21
LV1

CN1	D-1
D1	E-5
D2	E-5
D3	F-5
DL1	F-3
DL2	B-2
E-1	A-2
IC1	D-3
IC2	D-4
IC3	G-3
IC4	G-3
IC5	E-5
IC6	C-5
IC7	E-5
IC8	F-5
IC9	A-4
LV1	E-3
LV2	G-1
Q1	C-3
Q2	D-3
Q3	D-3
Q4	D-4
Q5	E-4
Q6	F-3
Q7	F-3
Q8	G-2
Q9	G-3
Q10	G-5
Q11	G-5
Q12	E-5
Q13	C-5
Q14	A-3
Q15	B-3
Q16	B-3
Q17	B-2
Q18	F-5
Q19	F-5
Q20	F-4
Q21	G-5
Q22	G-5
Q23	C-2
Q24	E-3
Q25	E-2
Q21	G-5
Q22	G-5
Q23	C-2
Q24	E-3
Q25	E-2
Q26	F-2
Q27	F-2
Q28	F-2
Q29	G-1
Q30	G-2
Q31	B-5
Q32	B-5
Q33	B-5
Q34	B-4
Q35	B-4
Q36	B-4
Q37	A-5
Q38	B-3
Q39	C-5
Q40	A-2
Q41	B-1
Q42	B-1
Q43	B-1
Q44	D-1
Q45	D-1
Q46	B-1
Q47	E-5
Q48	B-5
Q49	A-5
Q50	D-1
Q51	E-1
Q52	G-2
RV1	E-4
RV2	D-5
RV3	F-5
RV4	F-2
RV5	A-5
RV6	B-5
RV7	A-5
S1	G-3
S2	F-1
TP1	G-5
TP2	G-5
TP3	B-3
TP4	B-4
TP5	A-3
TP6	A-1
TP7	G-4
TP8	E-5
TP9	E-5
TP10	C-3

IE-14 BOARD
-SOLDERING SIDE-

1-617-353-11
DXC-3000 (J,UC)
DXC-3000P(E K)

IE-14 BOARD

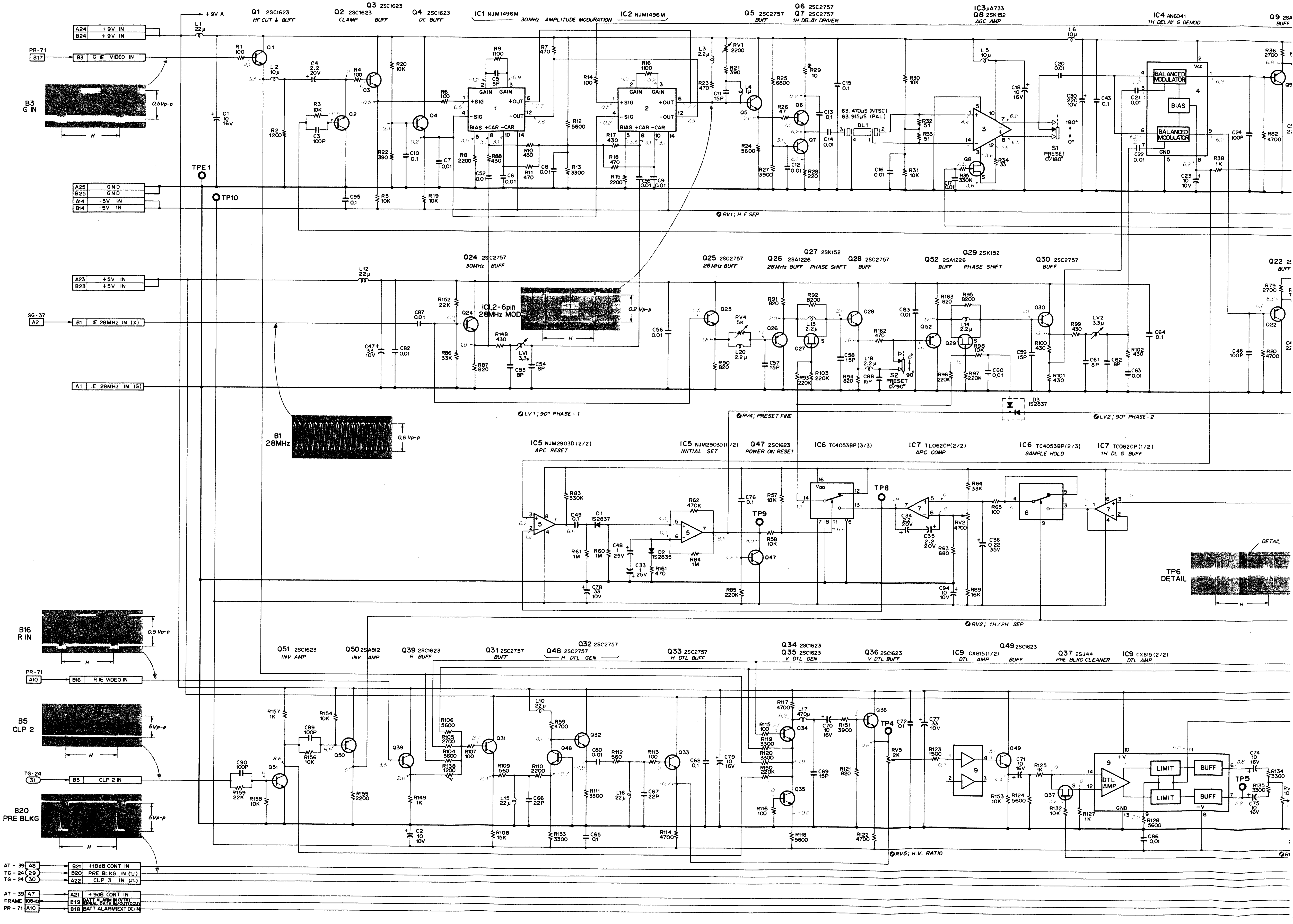

A
B
C
D
E
F
G
1
2
3
4
5
CN1
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
S1
E1
LV1
RV1
RV2
RV4
RV5
RV6
RV7
180°
0°

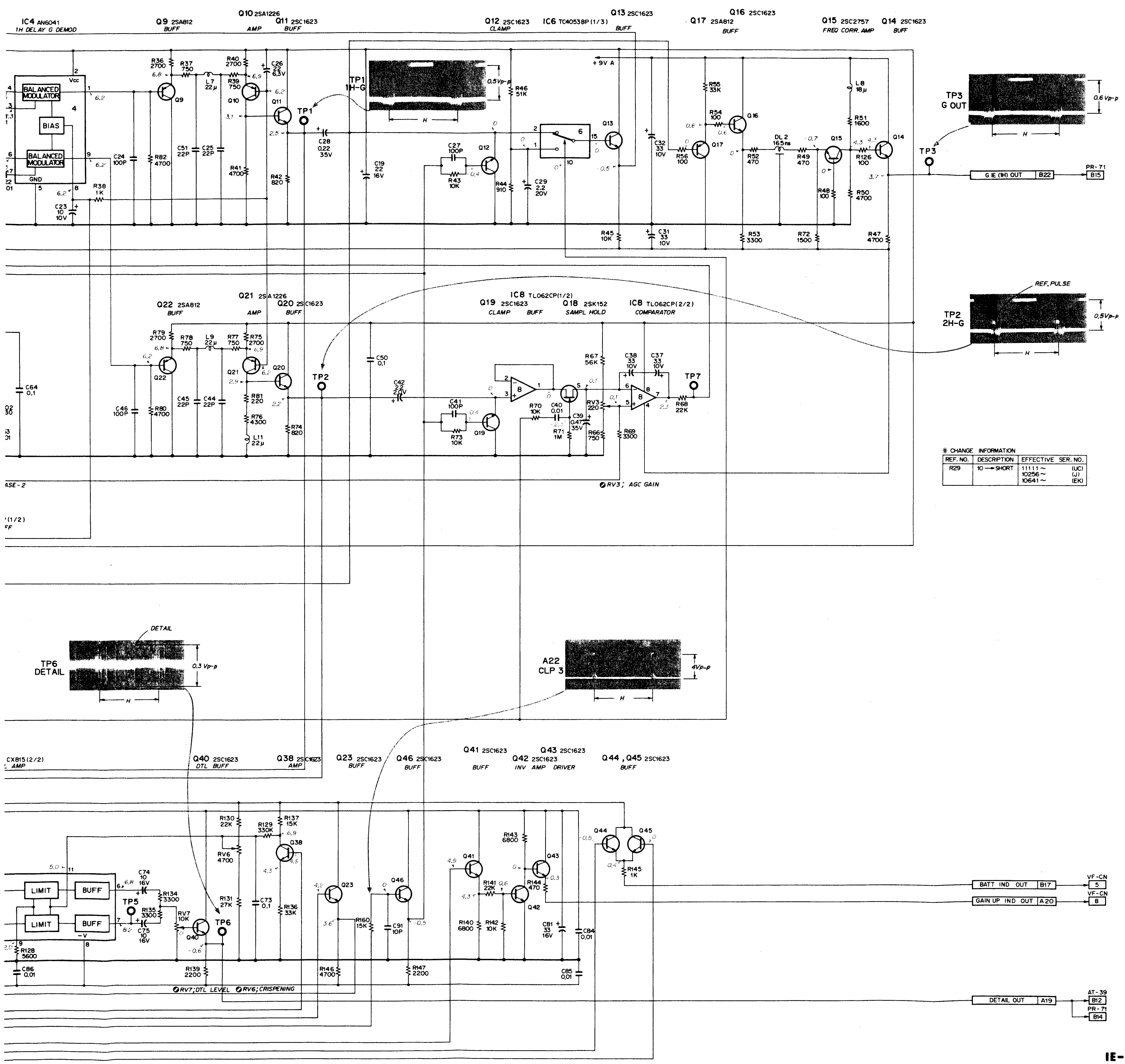
IE-14 BOARD
-SOLDERING SIDE-

1-617-353-12
DXC-3000 (J,UC)
DXC-3000P (EK)

CN1	D-1
D1	E-5
D2	E-5
D3	F-5
DL1	F-3
DL2	B-2
E-1	A-2
IC1	D-3
IC2	D-4
IC3	G-3
IC4	G-3
IC5	E-5
IC6	C-5
IC7	E-5
IC8	F-5
IC9	A-4
LV1	E-3
LV2	G-1
Q1	C-3
Q2	D-3
Q3	D-3
Q4	D-4
Q5	E-4
Q6	F-3
Q7	F-3
Q8	G-2
Q9	G-3
Q10	G-5
Q11	G-5
Q12	E-5
Q13	C-5
Q14	A-3
Q15	B-3
Q16	B-3
Q17	B-2
Q18	F-5
Q19	F-5
Q20	F-4
Q21	G-5
Q22	G-5
Q23	C-2
Q24	E-3
Q25	E-2
Q21	G-5
Q22	G-5
Q23	C-2
Q24	E-3
Q25	E-2
Q26	F-2
Q27	F-2
Q28	F-2
Q29	G-1
Q30	G-2
Q31	B-5
Q32	B-5
Q33	B-5
Q34	B-4
Q35	B-4
Q36	B-4
Q37	A-5
Q38	B-3
Q39	C-5
Q40	A-2
Q41	B-1
Q42	B-1
Q43	B-1
Q44	D-1
Q45	D-1
Q46	B-1
Q47	E-5
Q48	B-5
Q49	A-5
Q50	D-1
Q51	E-1
Q52	G-2
RV1	E-4
RV2	D-5
RV3	F-5
RV4	F-2
RV5	A-5
RV6	B-5
RV7	A-5
S1	G-3
S2	F-1
TP1	G-5
TP2	G-5
TP3	B-3
TP4	B-4
TP5	A-3
TP6	A-1
TP7	G-4
TP8	E-5
TP9	E-5
TP10	C-3

IE-14 BOARD


Q1 2SC1623 HF CUT & BUFF
Q2 2SC1623 CLAMP
Q3 2SC1623 BUFF
Q4 2SC1623 DC BUFF
IC1 NJM1496M 30MHz AMPLITUDE MODURATION
IC2 NJM1496M
Q5 2SC2757 BUFF
Q6 2SC2757
Q7 2SC2757 1H DELAY DRIVER
IC3 μA733
Q8 2SK152 AGC AMP
IC4 AN6041 1H DELAY G DEMOD
Q9
BALANCED MODULATOR
BIAS
DL1
63.470μS (NTSC)
63.915μS (PAL)
S1 PRESET 0°/180°
RV1; H.F SEP
Q24 2SC2757 30MHz BUFF
IC1,2-6pin 28MHz MOD
Q25 2SC2757 28MHz BUFF
Q26 2SA1226 28MHz BUFF PHASE SHIFT
Q27 2SK152
Q28 2SC2757 BUFF
Q52 2SA1226 BUFF PHASE SHIFT
Q29 2SK152
Q30 2SC2757 BUFF
Q22
S2 PRESET 0/90°
D3 1S2837
LV1; 90° PHASE-1
RV4; PRESET FINE
LV2; 90° PHASE-2
IC5 NJM2903D (2/2) APC RESET
IC5 NJM2903D (1/2) INITIAL SET
Q47 2SC1623 POWER ON RESET
IC6 TC4053BP (3/3)
IC7 TL062CP (2/2) APC COMP
IC6 TC4053BP (2/3) SAMPLE HOLD
IC7 TC062CP (1/2) 1H DL G BUFF
TP8
TP9
TP6 DETAIL
DETAIL
RV2; 1H/2H SEP
Q51 2SC1623 INV AMP
Q50 2SA812 INV AMP
Q39 2SC1623 R BUFF
Q31 2SC2757 BUFF
Q48 2SC2757 H DTL GEN
Q32 2SC2757
Q33 2SC2757 H DTL BUFF
Q34 2SC1623
Q35 2SC1623 V DTL GEN
Q36 2SC1623 V DTL BUFF
IC9 CX815 (1/2) DTL AMP
Q49 2SC1623 BUFF
Q37 2SJ44 PRE BLKG CLEANER
IC9 CX815 (2/2) DTL AMP
DTL AMP
LIMIT
BUFF
TP4
TP5
RV5; H.V. RATIO
TPE1
TP10
+9V A
A24 +9V IN
B24 +9V IN
PR-71 B17
B3 G IE VIDEO IN
B3 G IN
0.5Vp-p
A25 GND
B25 GND
A14 -5V IN
B14 -5V IN
A23 +5V IN
B23 +5V IN
SG-37 A2
B1 IE 28MHz IN (X)
A1 IE 28MHz IN (G)
B1 28MHz
0.6 Vp-p
0.2 Vp-p
B16 R IN
0.5 Vp-p
PR-71 A10
B16 R IE VIDEO IN
B5 CLP 2
5Vp-p
TG-24 31
B5 CLP 2 IN
B20 PRE BLKG
5Vp-p
H
AT-39 A8
B21 +18dB CONT IN
TG-24 29
B20 PRE BLKG IN
TG-24 30
A22 CLP 3 IN
AT-39 A7
A21 +9dB CONT IN
FRAME 106-10
B19 BATT ALARM IN (VTR) SERIAL DATA IN/OUT (CCU)
PR-71 A10
B18 BATT ALARM (EXT DC) IN


IC4 AN6041
1H DELAY G DEMOD
BALANCED MODULATOR
BIAS
BALANCED MODULATOR
Vcc
GND
Q9 2SA812
BUFF
Q10 2SA1226
AMP
Q11 2SC1623
BUFF
Q12 2SC1623
CLAMP
IC6 TC4053BP (1/3)
Q13 2SC1623
BUFF
Q17 2SA812
Q16 2SC1623
BUFF
Q15 2SC2757
FREQ CORR. AMP
Q14 2SC1623
BUFF
+9V A
TP1
TP1
1H-G
0.5Vp-p
H
TP3
G OUT
0.6 Vp-p
TP3
G IE (1H) OUT
B22
PR-71
B15
DL2
165ns
Q22 2SA812
BUFF
Q21 2SA1226
AMP
Q20 2SC1623
BUFF
Q19 2SC1623
CLAMP
BUFF
IC8 TL062CP(1/2)
Q18 2SK152
SAMPL HOLD
IC8 TL062CP(2/2)
COMPARATOR
TP2
TP7
REF. PULSE
TP2
2H-G
0.5Vp-p
RV3; AGC GAIN
TP6
DETAIL
DETAIL
0.3 Vp-p
A22
CLP 3
4Vp-p
CX815(2/2)
AMP
Q40 2SC1623
DTL BUFF
Q38 2SC1623
AMP
Q23 2SC1623
BUFF
Q46 2SC1623
BUFF
Q41 2SC1623
BUFF
Q42 2SC1623
INV AMP
Q43 2SC1623
DRIVER
Q44, Q45 2SC1623
BUFF
LIMIT
BUFF
LIMIT
BUFF
TP5
TP6
RV7; DTL LEVEL
RV6; CRISPENING
BATT IND OUT
B17
VF-CN
5
GAIN UP IND OUT
A20
VF-CN
8
DETAIL OUT
A19
AT-39
B12
PR-71
B14

※ CHANGE INFORMATION

REF. NO.	DESCRIPTION	EFFECTIVE SER. NO.
R29	10 → SHORT	11111～ (UC) 10256～ (J) 10641～ (EK)

IE-14 BOARD

DXC-3000 (J, UC)
DXC-3000P (EK)

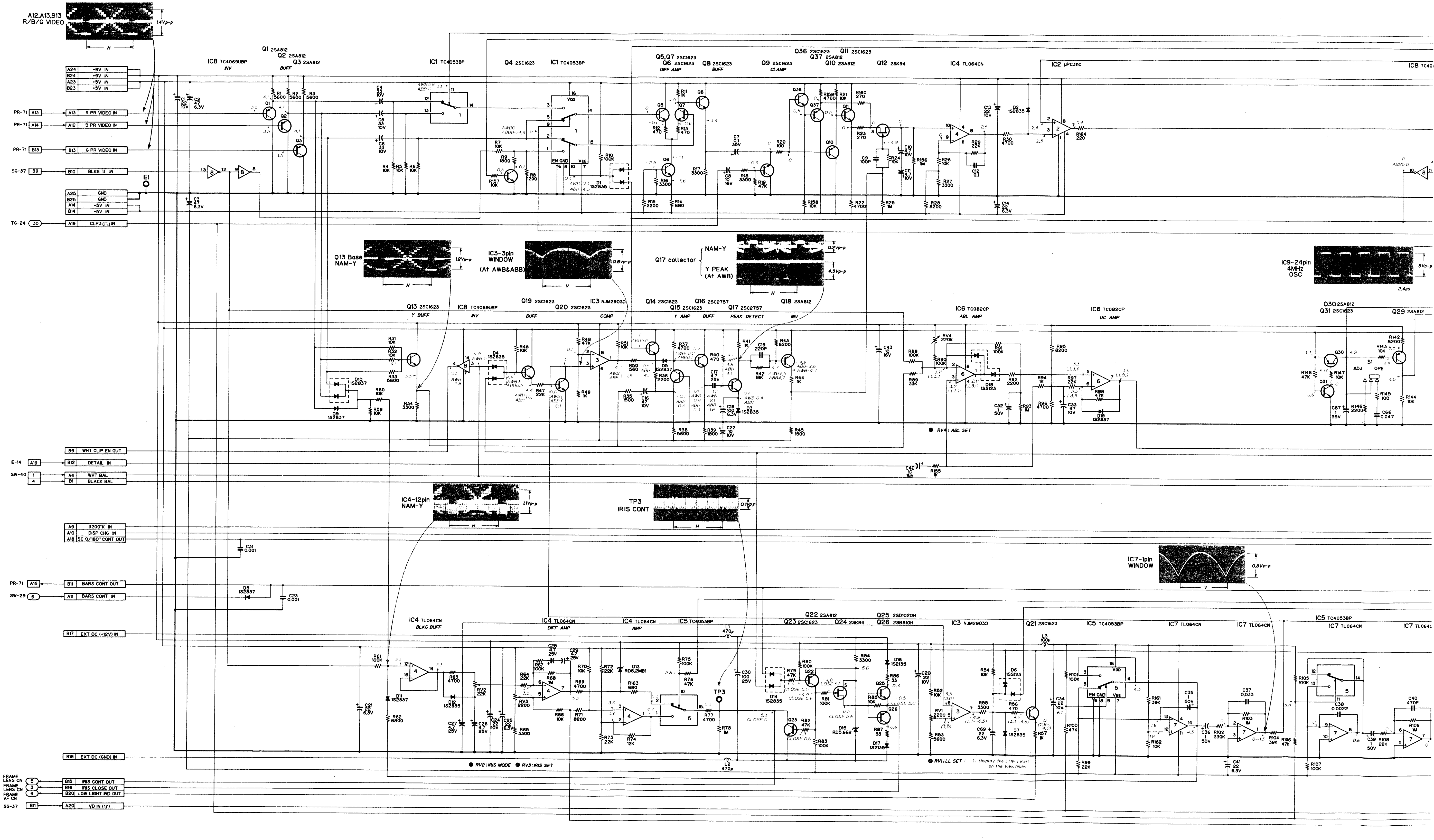
注意：

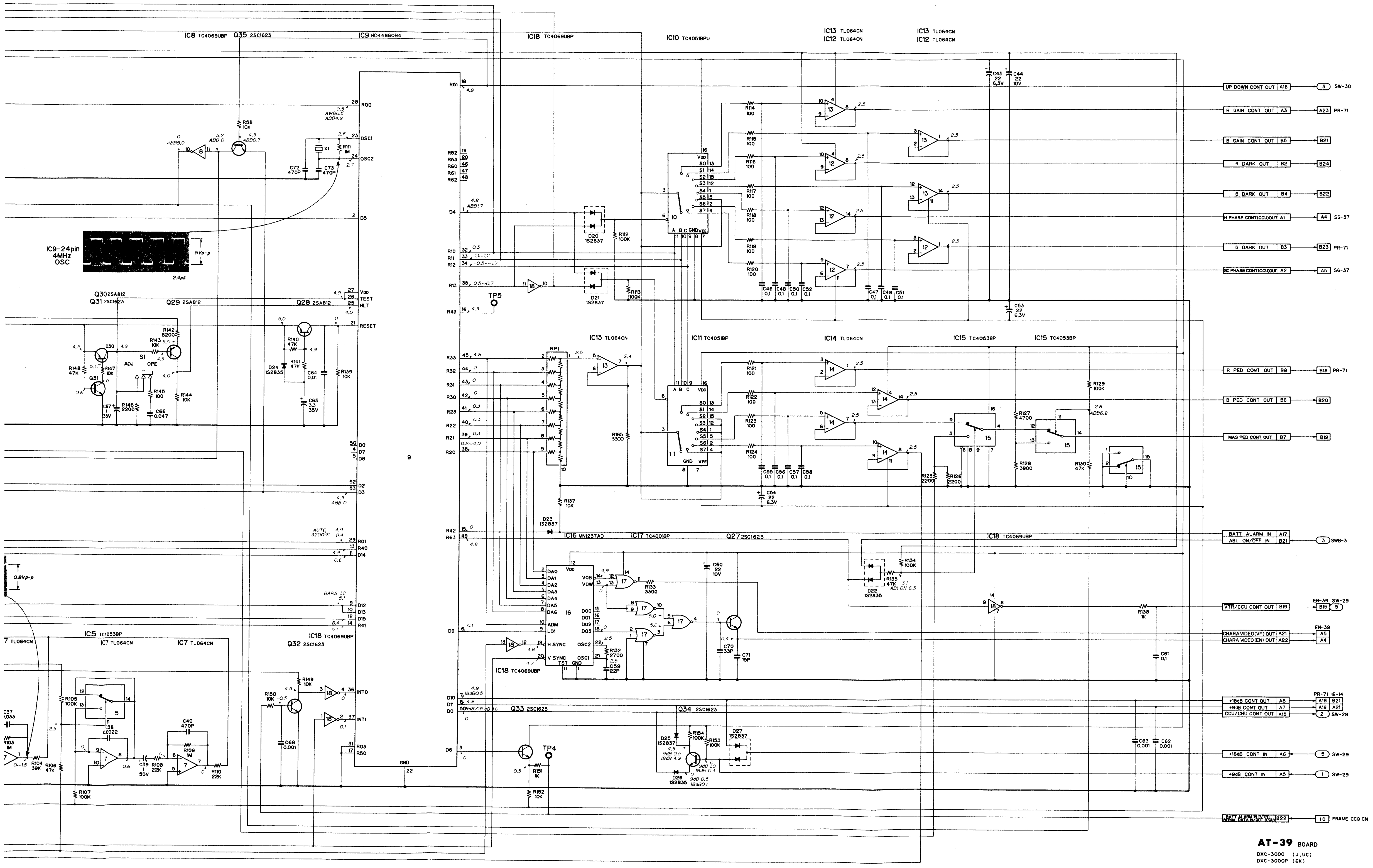
1. DC電圧はデジタル電圧計(入力インピーダンス10 MΩ)による値。
2. 波形写真及びDC電圧は下記条件で測定。
   - ●FILTER切り換えつまみ→1位置
   - ●BARS/WBスイッチ→3200°K位置
   - ●GAIN切り換えスイッチ→0 dB位置
   - ●ホワイトウインドウチャートを撮像し、波形モニターにて、ビデオ出力レベルが100 IREになる様に、レンズ絞りをセットする。(F≒4～5.6)

NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.
   - Set camera FILTER selector to 1 position.
   - Set camera BARS/WB selector to 3200°K position.
   - Set camera GAIN selector to 0 dB position.
   - Shoot the white window pattern. Adjust lens iris so that a video output level is 100 IRE on the waveform monitor (F ≒ 4~5.6)

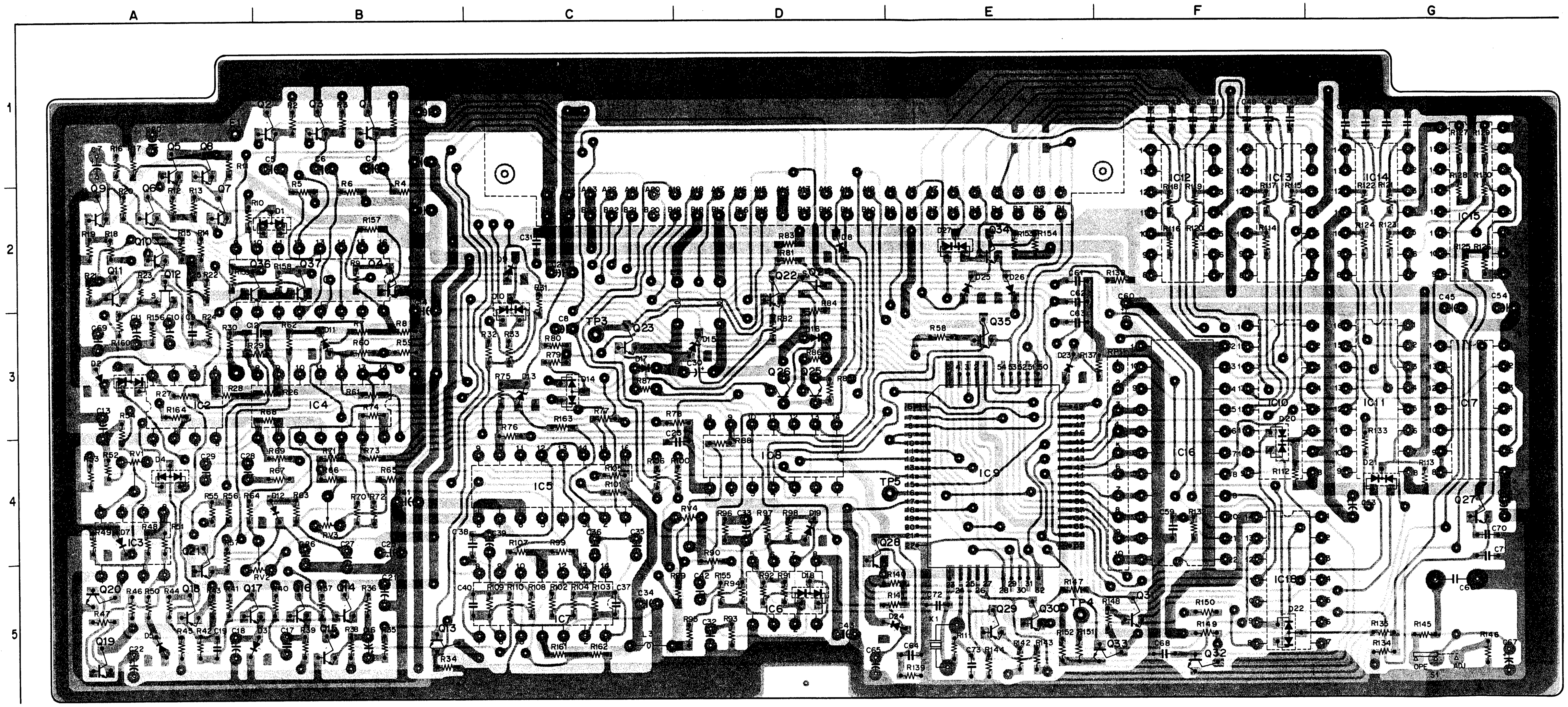
AT-39 BOARD


A12,A13,B13 R/B/G VIDEO
1.4Vp-p
A24 +9V IN
B24 +9V IN
A23 +5V IN
B23 +5V IN
PR-71 A13 R PR VIDEO IN
PR-71 A14 B PR VIDEO IN
PR-71 B13 G PR VIDEO IN
SG-37 B9 BLKG IN
A25 GND
B25 GND
A14 -5V IN
B14 -5V IN
TG-24 30 A19 CLP3 IN
E1
IC8 TC4069UBP INV
Q1 2SA812
Q2 2SA812 BUFF
Q3 2SA812
IC1 TC4053BP
Q4 2SC1623
IC1 TC4053BP
Q5,Q7 2SC1623 DIFF AMP
Q6 2SC1623
Q8 2SC1623 BUFF
Q9 2SC1623 CLAMP
Q36 2SC1623
Q37 2SA812
Q11 2SC1623
Q10 2SA812
Q12 2SK94
IC4 TL064CN
IC2 μPC311C
Q13 Base NAM-Y
1.2Vp-p
IC3-3pin WINDOW (At AWB&ABB)
0.8Vp-p
Q17 collector NAM-Y
Y PEAK (At AWB)
0.2Vp-p
4.5Vp-p
IC9-24pin 4MHz OSC
5Vp-p
2.4μs
Q13 2SC1623 Y BUFF
IC8 TC4069UBP INV
Q19 2SC1623 BUFF
Q20 2SC1623
IC3 NJM2903D COMP
Q14 2SC1623
Q15 2SC1623 Y AMP
Q16 2SC2757 BUFF
Q17 2SC2757 PEAK DETECT
Q18 2SA812 INV
IC6 TC082CP ABL AMP
IC6 TC082CP DC AMP
RV4: ABL SET
Q30 2SA812
Q31 2SC1623
Q29 2SA812
S1 ADJ OPE
B9 WHT CLIP EN OUT
IE-14 A19 B12 DETAIL IN
SW-40 1 A4 WHT BAL
4 B1 BLACK BAL
IC4-12pin NAM-Y
1.1Vp-p
TP3 IRIS CONT
0.1Vp-p
A9 3200°K IN
A10 DISP CHG IN
A18 SC 0/180° CONT OUT
C31 0.001
IC7-1pin WINDOW
0.8Vp-p
PR-71 A15 B11 BARS CONT OUT
SW-29 6 A11 BARS CONT IN
D8 1S2837
C23 0.001
B17 EXT DC (+12V) IN
IC4 TL064CN BLKG BUFF
IC4 TL064CN DIFF AMP
IC4 TL064CN AMP
IC5 TC4053BP
Q22 2SA812
Q23 2SC1623
Q24 2SK94
Q25 2SD1020H
Q26 2SB810H
IC3 NJM2903D
Q21 2SC1623
IC5 TC4053BP
IC7 TL064CN
IC7 TL064CN
IC5 TC4053BP
IC7 TL064CN
IC7 TL064CN
TP3
RV2: IRIS MODE
RV3: IRIS SET
RV1: LL SET
B18 EXT DC (GND) IN
FRAME LENS CN 5 B16 IRIS CONT OUT
FRAME LENS CN 3 B16 IRIS CLOSE OUT
FRAME VF CN 4 B20 LOW LIGHT IND OUT
SG-37 B11 A20 VD IN


IC8 TC4069UBP
Q35 2SC1623
IC9 HD44860B4
IC18 TC4069UBP
IC10 TC4051BPU
IC13 TL064CN
IC12 TL064CN
IC9-24pin
4MHz
OSC
5Vp-p
2.4μs
Q30 2SA812
Q31 2SC1623
Q29 2SA812
Q28 2SA812
S1
ADJ
OPE
TP5
TP4
RP1
IC11 TC4051BP
IC14 TL064CN
IC15 TC4053BP
IC16 MN1237AD
IC17 TC4001BP
Q27 2SC1623
Q32 2SC1623
Q33 2SC1623
Q34 2SC1623
IC5 TC4053BP
IC7 TL064CN
0.8Vp-p
D20 1S2837
D21 1S2837
D22 1S2835
D23 1S2837
D24 1S2835
D25 1S2837
D26 1S2835
D27 1S2837
UP DOWN CONT OUT A16
SW-30
R GAIN CONT OUT A3
A23 PR-71
B GAIN CONT OUT B5
B21
R DARK OUT B2
B24
B DARK OUT B4
B22
H PHASE CONT(CCU)OUT A1
A4 SG-37
G DARK OUT B3
B23 PR-71
SC PHASE CONT(CCU)OUT A2
A5 SG-37
R PED CONT OUT B8
B18 PR-71
B PED CONT OUT B6
B20
MAS PED CONT OUT B7
B19
BATT ALARM IN A17
ABL ON/OFF IN B21
SWB-3
VTR/CCU CONT OUT B19
EN-39 SW-29
B15
CHARA VIDEO(VF) OUT A21
CHARA VIDEO(EN) OUT A22
EN-39
A5
A4
+18dB CONT OUT A8
+9dB CONT OUT A7
CCU/CHU CONT OUT A18
PR-71 IE-14
A18 B21
A19 A21
SW-29
+18dB CONT IN A6
+9dB CONT IN A5
SW-29
BATT ALARM IN(CCU) / SERIAL DATA IN/OUT (CCU) B22
FRAME CCQ CN

AT-39 BOARD
DXC-3000 (J,UC)
DXC-3000P (EK)

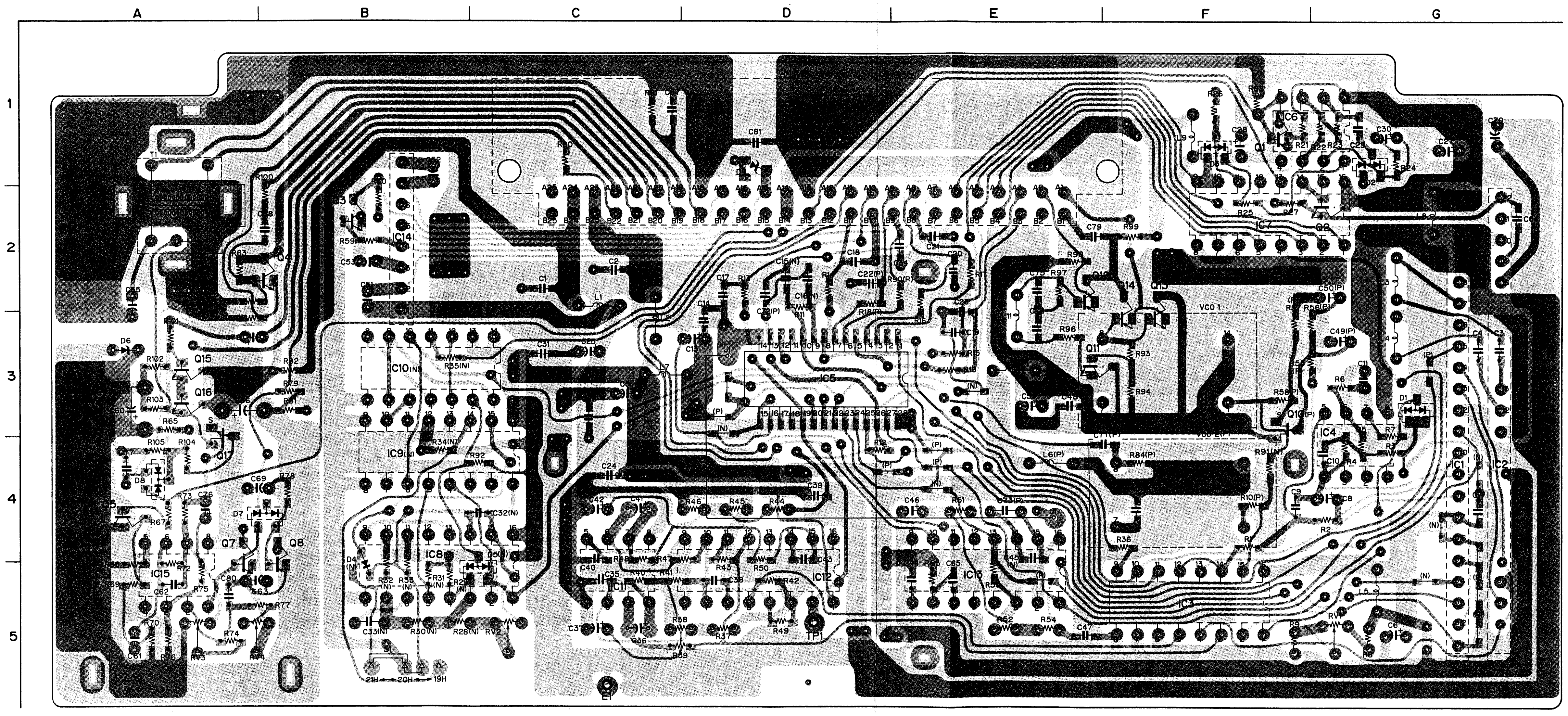
AT-39 BOARD


A
B
C
D
E
F
G
1
2
3
4
5
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
TP3
TP4
TP5
X1
OPE
S1
ADJ

AT-39 BOARD
-SOLDERING SIDE-
1-617-351-11
DXC-3000 (J,UC)
DXC-3000P(EK)

CN1	D-1
D1	B-2
D2	A-3
D3	B-5
D4	A-4
D5	A-5
D6	A-3
D7	A-4
D8	D-2
D9	C-2
D10	C-2
D11	B-3
D12	B-4
D13	C-3
D14	C-3
D15	D-3
D16	D-3
D17	C-3
D18	D-5
D19	D-4
D20	F-4
D21	G-4
D22	F-5
D23	E-3
D24	E-5
D25	E-2
D26	E-2
D27	E-2
E1	A-1
IC1	B-2
IC2	A-3
IC3	A-4
IC4	B-3
IC5	C-4
IC6	D-5
IC7	C-5
IC8	D-4
IC9	E-4
IC10	F-3
IC11	G-3
IC12	F-2
IC13	F-2
IC14	G-2
IC15	G-2
IC16	F-4
IC17	G-3
IC18	F-5
Q1	B-1
Q2	B-1
Q3	B-1
Q4	B-2
Q5	A-1
Q6	A-2
Q7	A-2
Q8	A-1
Q9	A-2
Q10	A-2
Q11	A-2
Q12	A-2
Q13	B-5
Q14	B-5
Q15	B-5
Q16	B-5
Q17	A-5
Q18	A-5
Q19	A-5
Q20	A-5
Q21	A-5
Q22	D-2
Q23	C-3
Q24	D-2
Q25	D-3
Q26	D-3
Q27	G-4
Q28	D-4
Q29	E-5
Q30	E-5
Q31	F-5
Q32	F-5
Q33	F-5
Q34	E-2
Q35	E-3
Q36	A-2
Q37	B-2
RP1	F-4
RV1	A-4
RV2	B-5
RV3	B-4
RV4	D-4
S1	G-5
TP3	C-3
TP4	E-5
TP5	E-4
X1	E-5

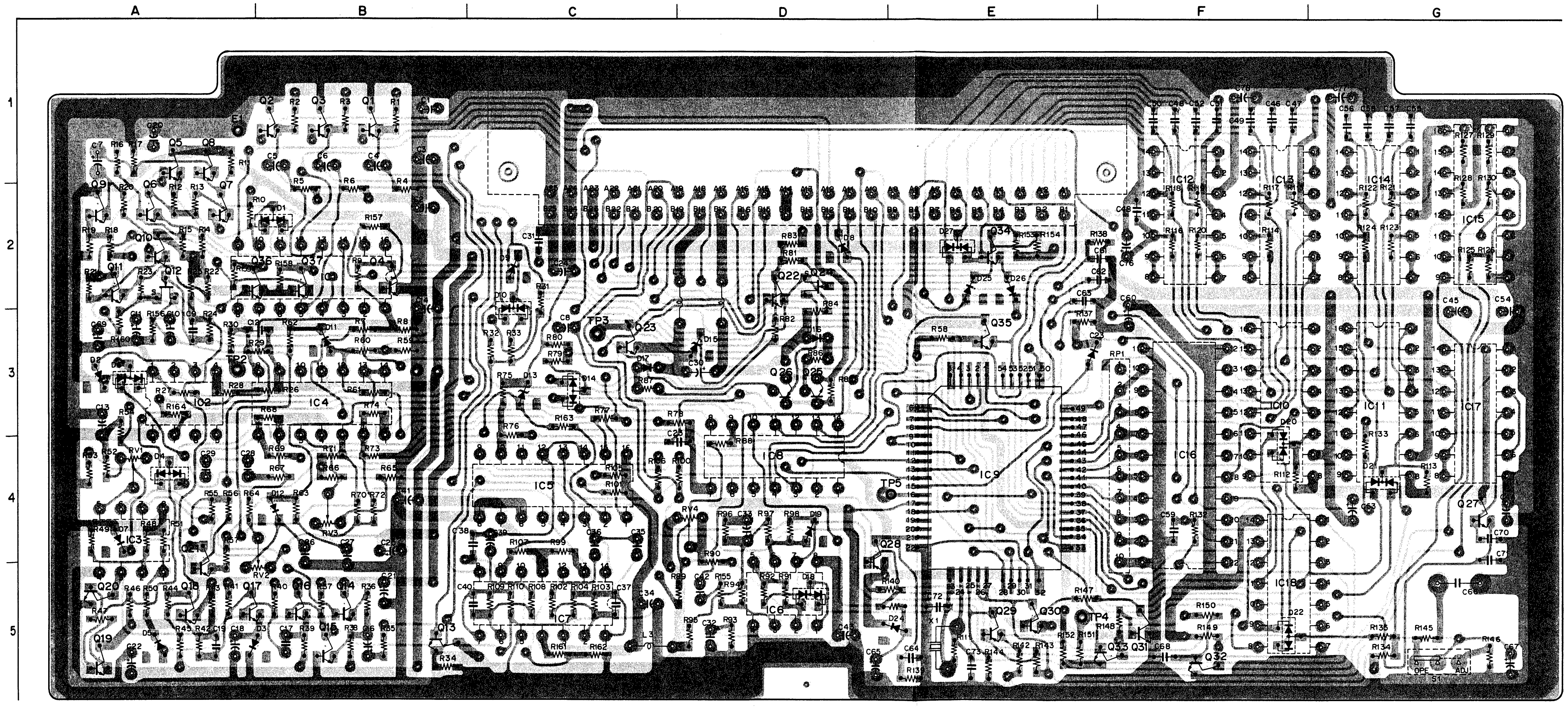
SG-37 BOARD


A
B
C
D
E
F
G
1
2
3
4
5
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
Q1
Q2
Q3
Q4
Q7
Q8
Q10
Q11
Q12
Q14
Q15
Q16
Q17
T1
TP1
E1
VCO 1
S1
21H
20H
19H

CN1	D - 1
D1	G - 3
D2	G - 1
D3	F - 1
D4	B - 5
D5	C - 5
D6	A - 3
D7	B - 4
D8	A - 4
D9	D - 1
E1	C - 5
IC1	G - 4
IC2	G - 4
IC3	F - 5
IC4	G - 4
IC5	D - 3
IC6	G - 1
IC7	F - 2
IC8	B - 5
IC9	B - 4
IC10	B - 3
IC11	C - 5
IC12	D - 5
IC13	E - 5
IC14	B - 2
IC15	A - 5
Q1	F - 1
Q2	G - 2
Q3	B - 2
Q4	B - 2
Q5	A - 4
Q7	A - 5
Q8	B - 5
Q10	F - 3
Q11	E - 3
Q12	E - 2
Q13	F - 3
Q14	F - 3
Q15	A - 3
Q16	A - 3
Q17	A - 3
RV1	G - 5
RV2	C - 5
RV3	A - 5
RV4	A - 5
S1	B - 5
T1	A - 2
TP1	D - 5
VC01	F - 3
VC02	F - 4

SG-37 BOARD
-SOLDERING SIDE-
1-617-355-11
DXC-3000 (J,UC)
DXC-3000P(E K)

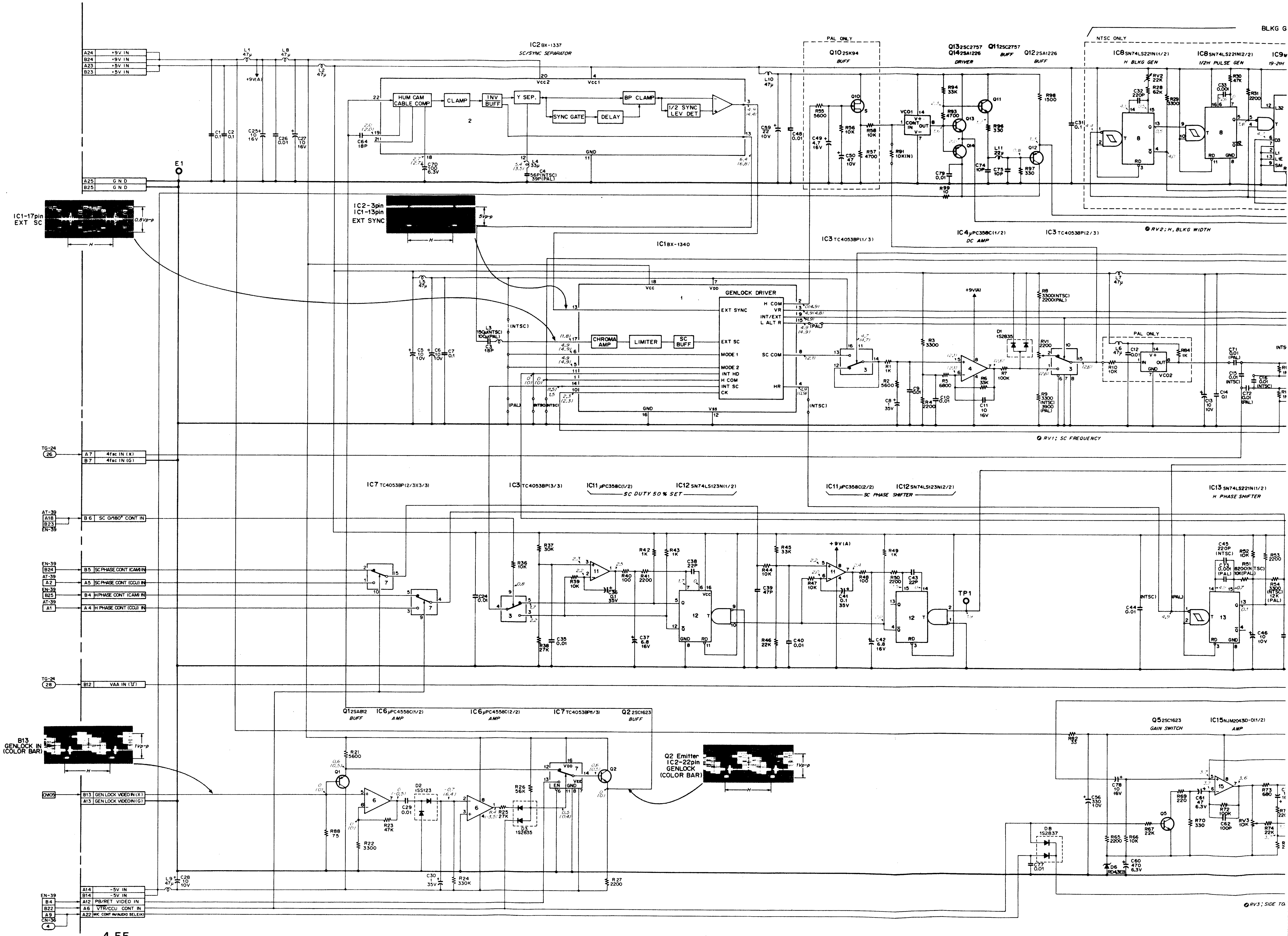
AT-39 **BOARD**

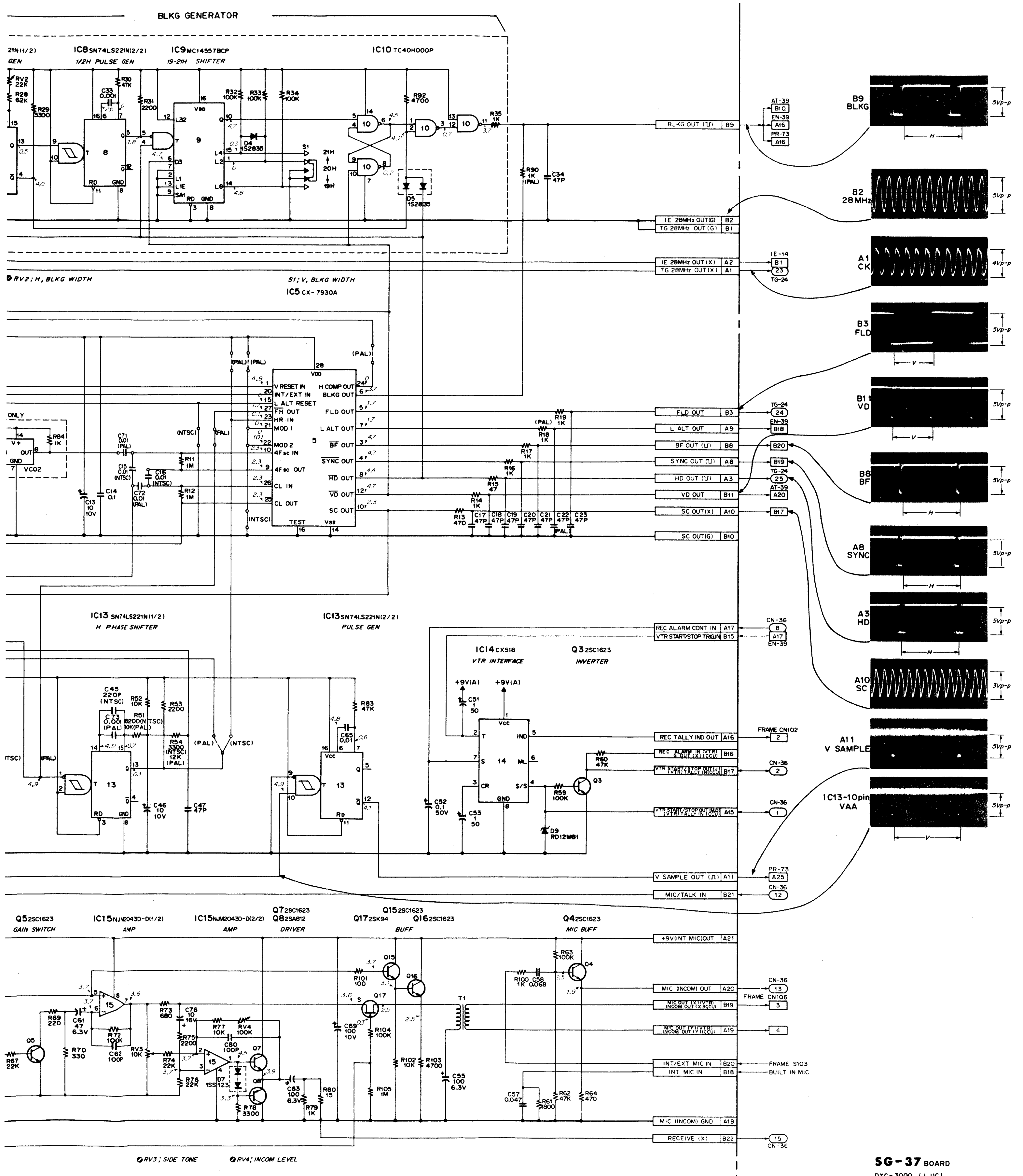

A
B
C
D
E
F
G
1
2
3
4
5
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
TP3
TP4
TP5
RP1
S1
OFF
ADJ
X1
CN1
E1

CN1	D-1
D1	B-2
D2	A-3
D3	B-5
D4	A-4
D5	A-5
D6	A-3
D7	A-4
D8	D-2
D9	C-2
D10	C-2
D11	B-3
D12	B-4
D13	C-3
D14	C-3
D15	D-3
D16	D-3
D17	C-3
D18	D-5
D19	D-4
D20	F-4
D21	G-4
D22	F-5
D23	E-3
D24	E-5
D25	E-2
D26	E-2
D27	E-2
E1	A-1
IC1	B-2
IC2	A-3
IC3	A-4
IC4	B-3
IC5	C-4
IC6	D-5
IC7	C-5
IC8	D-4
IC9	E-4
IC10	F-3
IC11	G-3
IC12	F-2
IC13	F-2
IC14	G-2
IC15	G-2
IC16	F-4
IC17	G-3
IC18	F-5
Q1	B-1
Q2	B-1
Q3	B-1
Q4	B-2
Q5	A-1
Q6	A-2
Q7	A-2
Q8	A-1
Q9	A-2
Q10	A-2
Q11	A-2
Q12	A-2
Q13	B-5
Q14	B-5
Q15	B-5
Q16	B-5
Q17	A-5
Q18	A-5
Q19	A-5
Q20	A-5
Q21	A-5
Q22	D-2
Q23	C-3
Q24	D-2
Q25	D-3
Q26	D-3
Q27	G-4
Q28	D-4
Q29	E-5
Q30	E-5
Q31	F-5
Q32	F-5
Q33	F-5
Q34	E-2
Q35	E-3
Q36	A-2
Q37	B-2
RP1	F-4
RV1	A-4
RV2	B-5
RV3	B-4
RV4	D-4
S1	G-5
TP3	C-3
TP4	E-5
TP5	E-4
X1	E-5

AT-39 BOARD
-SOLDERING SIDE-
1-617-351-12
DXC-3000 (J,UC)
DXC-3000P(EK)

SG-37 BOARD


A24 +9V IN
B24 +9V IN
A23 +5V IN
B23 +5V IN
A25 GND
B25 GND
E1
IC1-17pin EXT SC
0.8Vp-p
IC2-3pin
IC1-13pin
EXT SYNC
5Vp-p
IC2 BX-1337
SC/SYNC SEPARATOR
HUM CAN CABLE COMP
CLAMP
INV BUFF
Y SEP.
BP CLAMP
SYNC GATE
DELAY
1/2 SYNC LEV DET
Vcc2
Vcc1
GND
PAL ONLY
Q10 2SK94
BUFF
Q13 2SC2757
Q14 2SA1226
DRIVER
Q11 2SC2757
BUFF
Q12 2SA1226
BUFF
VCO1
NTSC ONLY
IC8 SN74LS221N(1/2)
H BLKG GEN
IC8 SN74LS221N(2/2)
1/2H PULSE GEN
BLKG G
RV2; H. BLKG WIDTH
IC1 BX-1340
GENLOCK DRIVER
CHROMA AMP
LIMITER
SC BUFF
EXT SYNC
EXT SC
MODE 1
MODE 2
INT HD
H COM
INT SC
CK
H COM
VR
INT/EXT
L ALT R
SC COM
HR
IC3 TC4053BP(1/3)
IC4 μPC358C(1/2)
DC AMP
IC3 TC4053BP(2/3)
PAL ONLY
VCO2
RV1; SC FREQUENCY
TG-24
A7 4fsc IN (X)
B7 4fsc IN (G)
AT-39
EN-39
B6 SC 0/180° CONT IN
B5 SC PHASE CONT (CAM) IN
A5 SC PHASE CONT (CCU) IN
B4 H PHASE CONT (CAM) IN
A4 H PHASE CONT (CCU) IN
IC7 TC4053BP(2/3)(3/3)
IC3 TC4053BP(3/3)
IC11 μPC358C(1/2)
IC12 SN74LS123N(1/2)
SC DUTY 50% SET
IC11 μPC358C(2/2)
IC12 SN74LS123N(2/2)
SC PHASE SHIFTER
TP1
IC13 SN74LS221N(1/2)
H PHASE SHIFTER
B12 VAA IN (Y)
B13 GENLOCK IN (COLOR BAR)
1Vp-p
CN105
B13 GEN LOCK VIDEO IN (X)
A13 GEN LOCK VIDEO IN (G)
Q1 2SA812
BUFF
IC6 μPC4558C(1/2)
AMP
IC6 μPC4558C(2/2)
AMP
IC7 TC4053BP(1/3)
Q2 2SC1623
BUFF
D2 1SS123
D3 1S2835
Q2 Emitter
IC2-22pin
GENLOCK (COLOR BAR)
Q5 2SC1623
GAIN SWITCH
IC15 NJM2043D-D(1/2)
AMP
D8 1S2837
D6 RD43EB
RV3; SIDE TO
A14 -5V IN
B14 -5V IN
A12 PB/RET VIDEO IN
A6 VTR/CCU CONT IN
A22 MIC CONT IN/AUDIO SEL(X)
EN-39
CN-36


BLKG GENERATOR
IC8 SN74LS221N(2/2) 1/2H PULSE GEN
IC9 MC14557BCP 19-21H SHIFTER
IC10 TC40H000P
RV2;H, BLKG WIDTH
S1; V, BLKG WIDTH
IC5 CX-7930A
IC13 SN74LS221N(1/2) H PHASE SHIFTER
IC13 SN74LS221N(2/2) PULSE GEN
IC14 CX518 VTR INTERFACE
Q3 2SC1623 INVERTER
Q5 2SC1623 GAIN SWITCH
IC15 NJM2043D-D(1/2) AMP
IC15 NJM2043D-D(2/2) AMP
Q7 2SC1623 Q8 2SA812 DRIVER
Q17 2SK94
Q15 2SC1623 Q16 2SC1623 BUFF
Q4 2SC1623 MIC BUFF
RV3; SIDE TONE
RV4; INCOM LEVEL
BLKG OUT B9
IE 28MHz OUT(G) B2
TG 28MHz OUT(G) B1
IE 28MHz OUT(X) A2
TG 28MHz OUT(X) A1
FLD OUT B3
L ALT OUT A9
BF OUT B8
SYNC OUT A8
HD OUT A3
VD OUT B11
SC OUT(X) A10
SC OUT(G) B10
REC ALARM CONT IN A17
VTR START/STOP TRIG IN B15
REC TALLY IND OUT A16
V SAMPLE OUT A11
MIC/TALK IN B21
+9V(INT MIC)OUT A21
MIC (INCOM) OUT A20
INT/EXT MIC IN B20
INT. MIC IN B18
MIC (INCOM) GND A18
RECEIVE (X) B22
B9 BLKG
B2 28MHz
A1 CK
B3 FLD
B11 VD
B8 BF
A8 SYNC
A3 HD
A10 SC
A11 V SAMPLE
IC13-10pin VAA
5Vp-p
4Vp-p
3Vp-p
H
V

4-57

SG-37 BOARD
DXC-3000 (J,UC)
DXC-3000P(EK)

注意：

1．DC電圧はデジタル電圧計(入力インピーダンス10MΩ)による値。

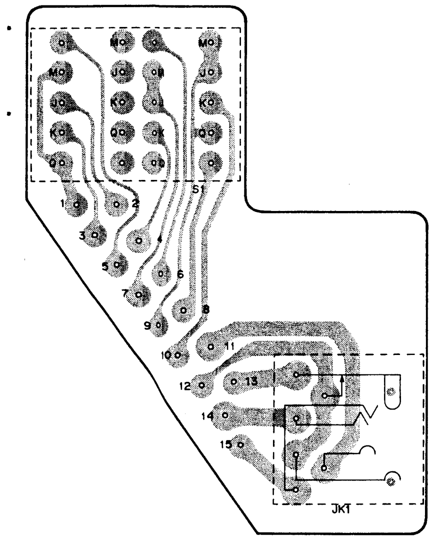
2．波形写真及び( )内のDC電圧は下記条件で測定。
●GENLOCK IN端子よりカラーバー信号を入力する。

3．DC電圧は下記条件で測定。
●INTモードで動作させる。

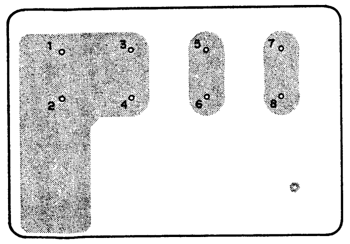
NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage in parentheses ( ) is mesured in condition below.
   - Supply a color-bar signal to the GEN LOCK IN terminal.
3. DC voltage is mesured in condition below.
   - Work the camera in the INT mode.

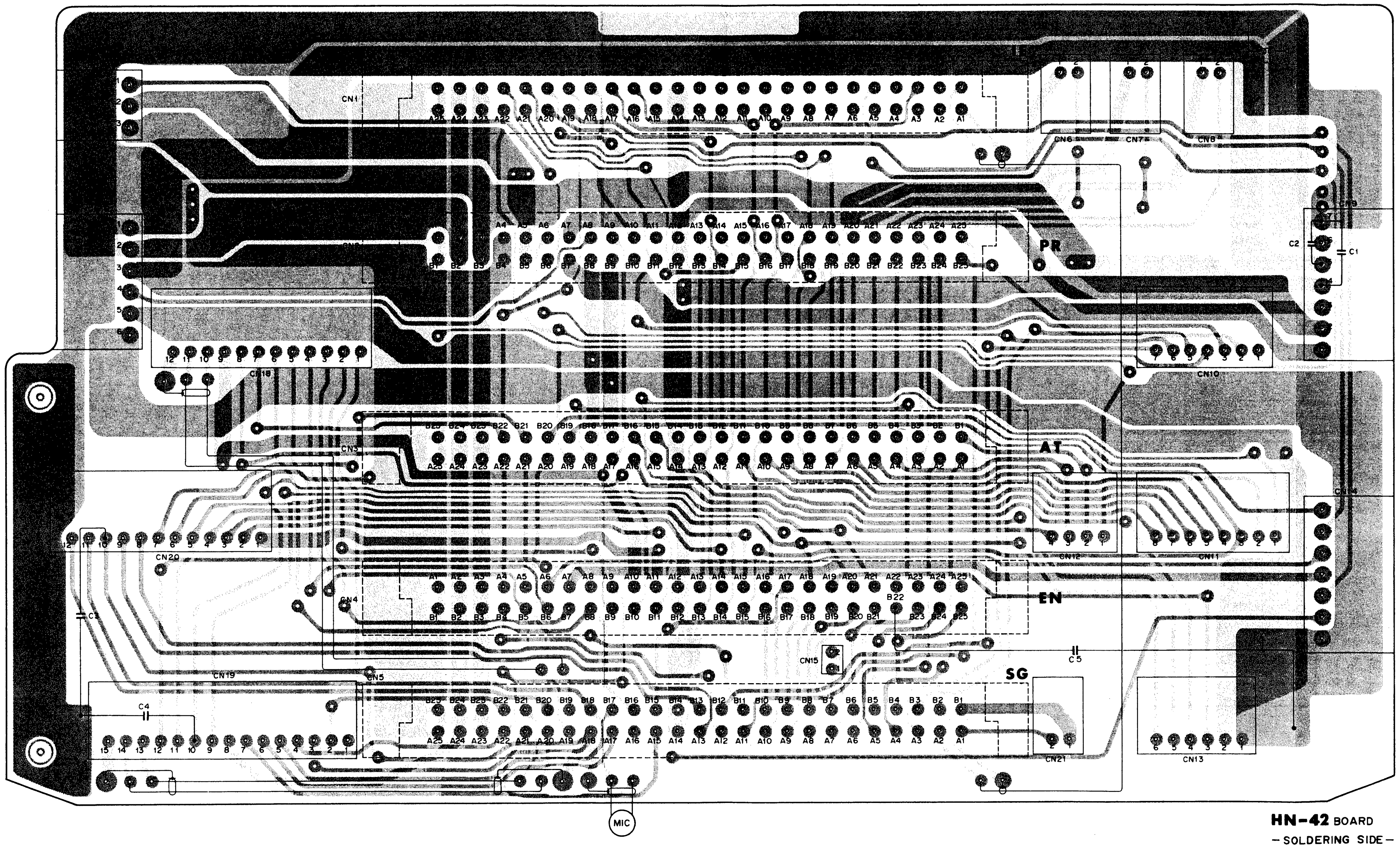
CN-36 BOARD
CN-111 BOARD
HN-42 BOARD
SW-29 BOARD
SW-30 BOARD
SWB-13 BOARD


S1
JK1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

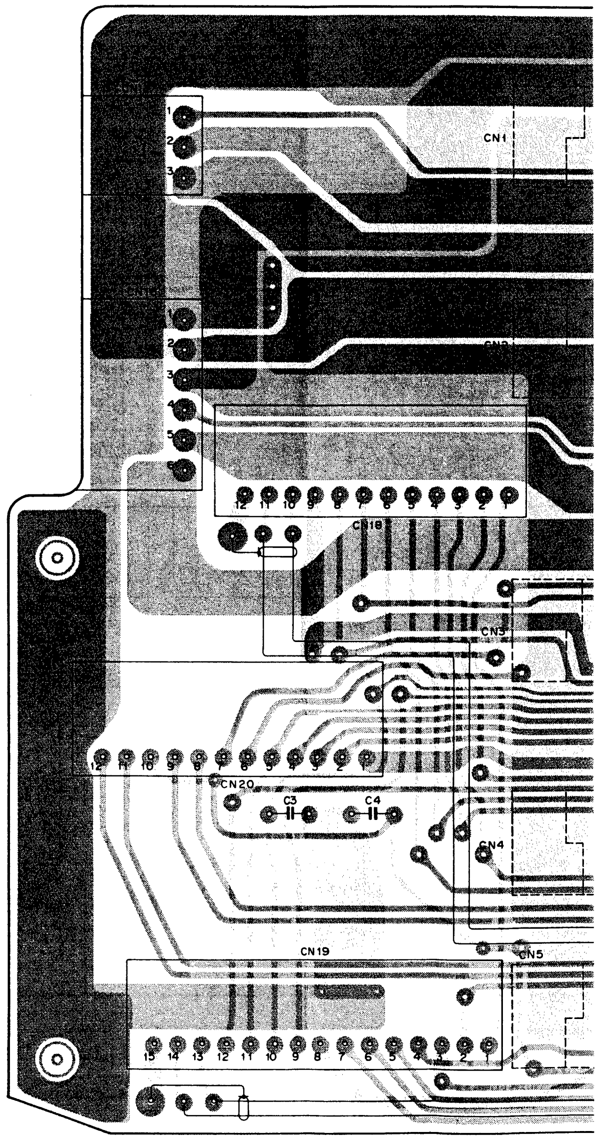
CN-36 BOARD
-SOLDERING SIDE-
1-617-360-11
DXC-3000 (J,UC)
DXC-3000P (EK)

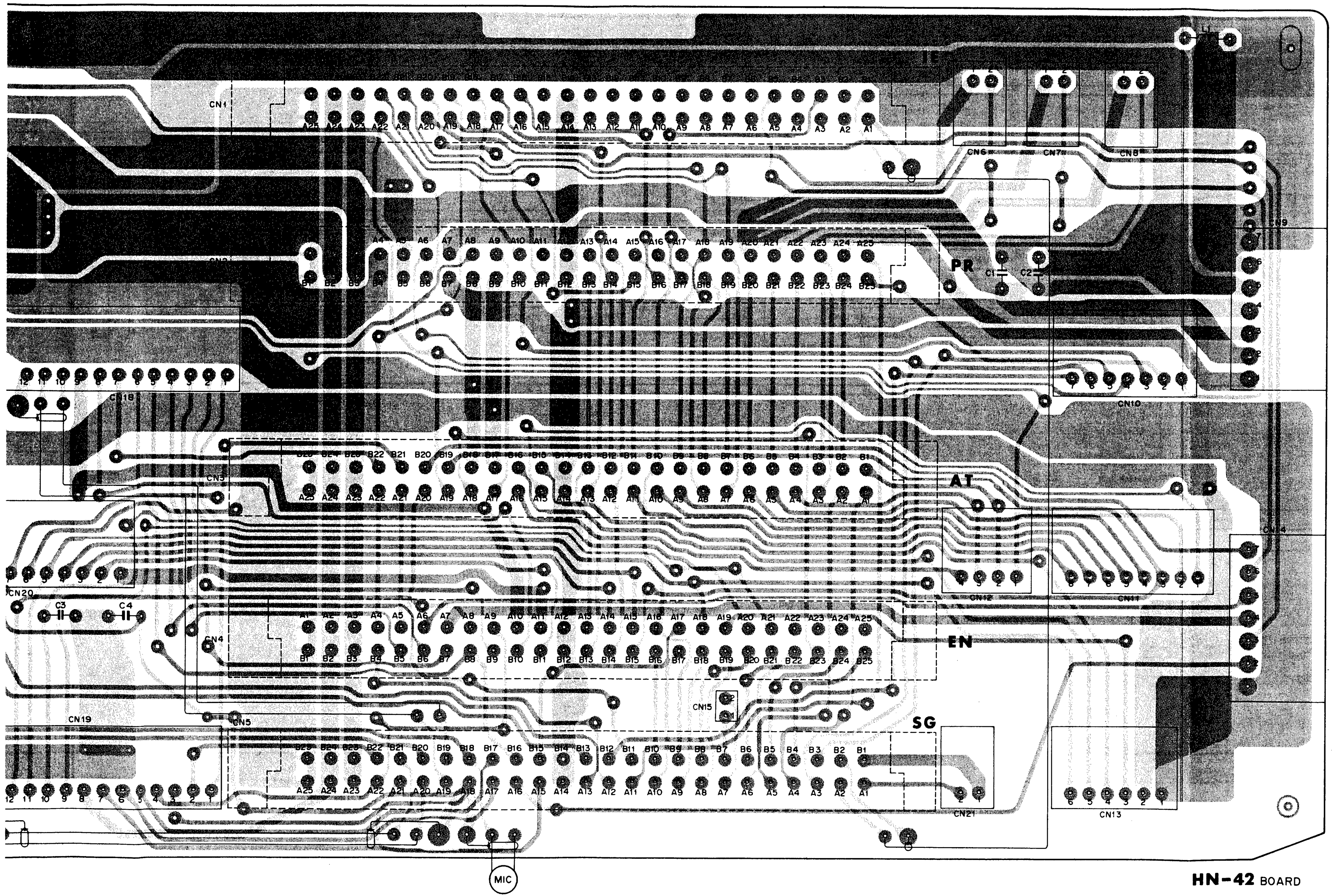


CN-111 BOARD
-SOLDERING SIDE-
1-617-361-11
DXC-3000 (J,UC)
DXC-3000P (EK)

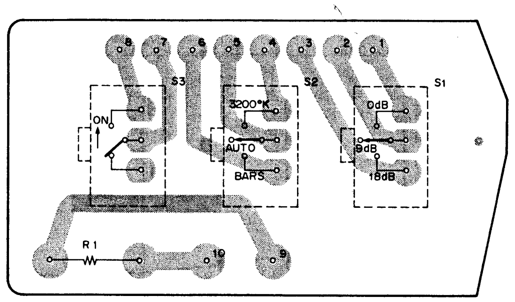

CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
CN18
CN19
CN20
CN21
PR
AT
EN
SG
C1
C2
C3
C4
C5
MIC
B22

HN-42 BOARD
– SOLDERING SIDE –
1-617-356-11
DXC-3000 (J,UC)
DXC-3000P(EK)

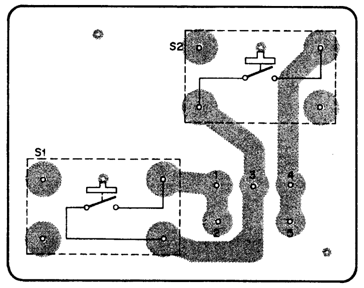

CN1
CN2
CN3
CN4
CN5
CN18
CN19
CN20
C3
C4


CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
CN18
CN19
CN20
CN21
PR
AT
EN
SG
C1
C2
C3
C4
MIC

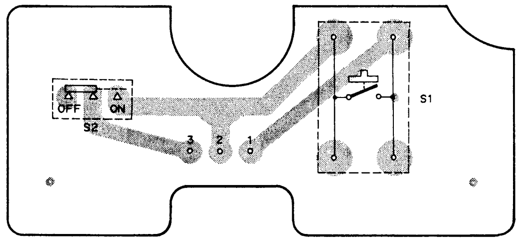
HN-42 BOARD
– SOLDERING SIDE –
1-617-356-12
DXC-3000 (J,UC)
DXC-3000P (EK)


S1
S2
S3
ON
3200°K
AUTO
BARS
0dB
9dB
18dB
R1

SW-29 BOARD
-SOLDERING SIDE-
1-617-357-12
DXC-3000 (J,UC)
DXC-3000P (EK)

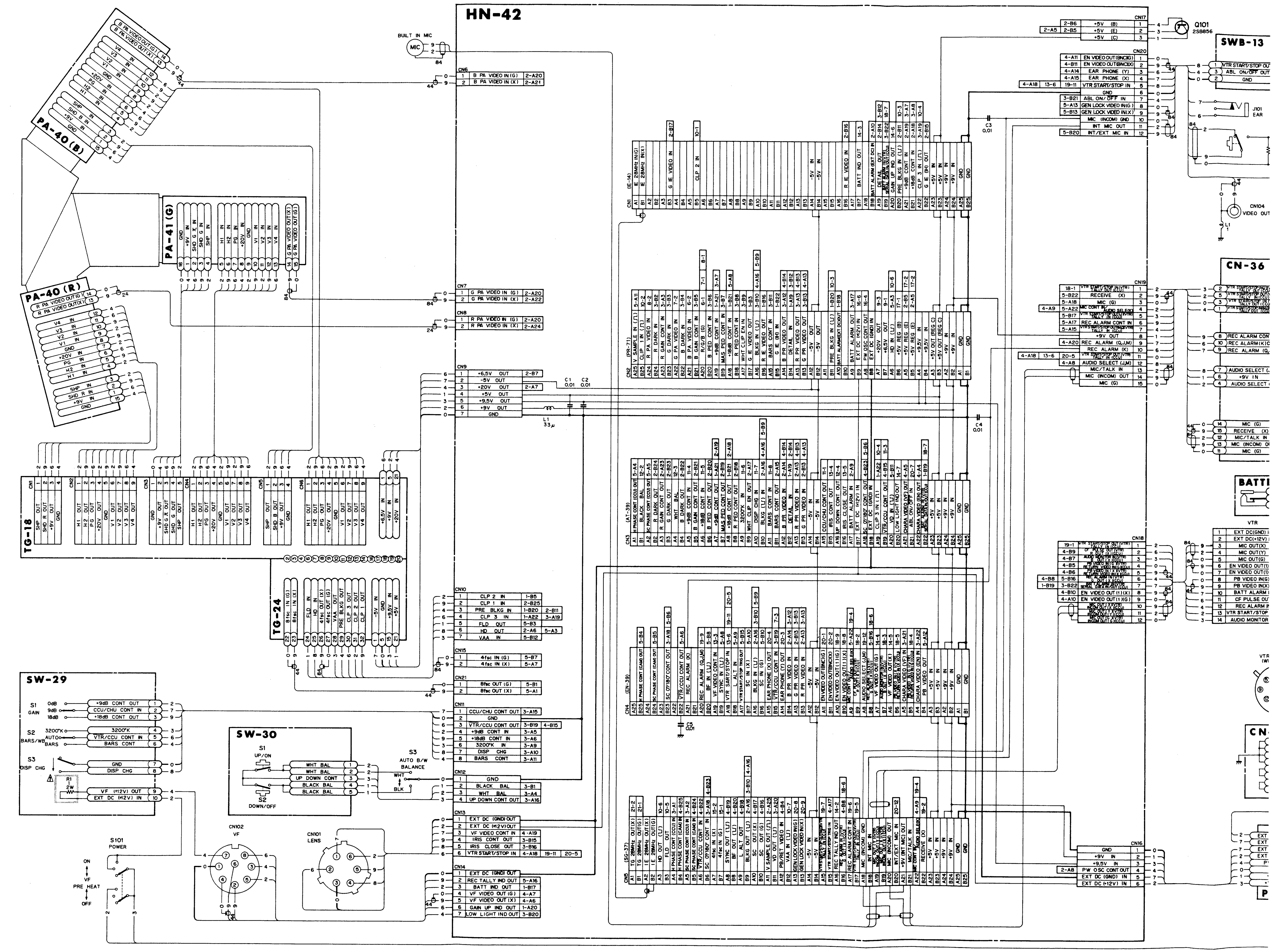


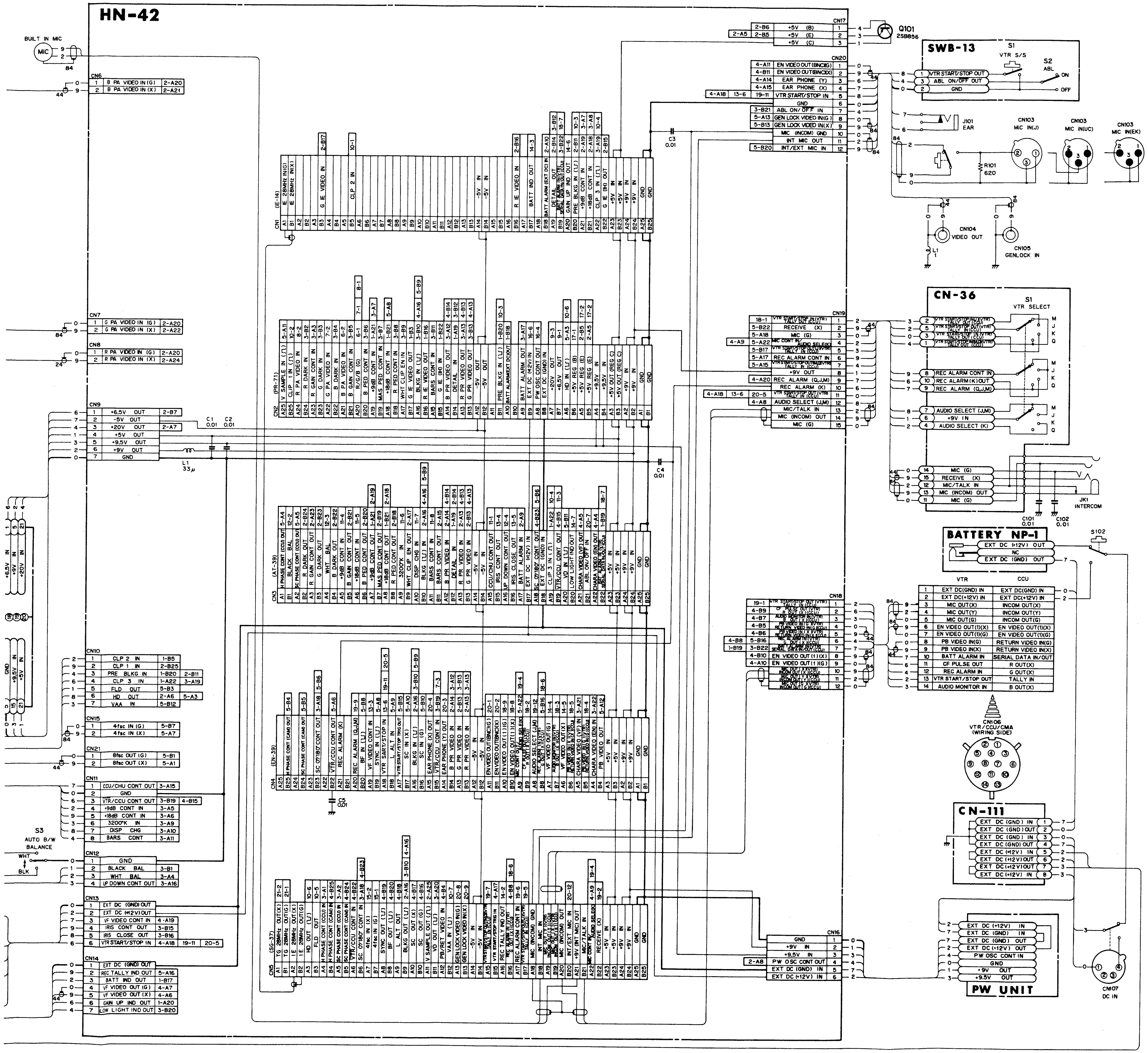
SW-30 BOARD
-SOLDERING SIDE-
1-617-358-11
DXC-3000 (J,UC)
DXC-3000P (EK)


OFF
ON
S1
S2
3
2
1

SWB-13 BOARD
-SOLDERING SIDE-
1-617-359-11
DXC-3000 (J,UC)
DXC-3000P (EK)

FRAME
CN-36 BOARD
CN-111 BOARD
HN-42 BOARD
SW-29 BOARD
SW-30 BOARD
SWB-13 BOARD


PA-40 (B)
PA-41 (G)
PA-40 (R)
BUILT IN MIC
MIC
HN-42
TG-18
TG-24
SW-29
SW-30
S1 GAIN
S2 BARS/WB
S3 DISP CHG
S1 UP/ON
S2 DOWN/OFF
S3 AUTO B/W BALANCE
S101 POWER
ON
VF
PRE HEAT
OFF
CN102 VF
CN101 LENS
SWB-13
CN-36
Q101 2SB856
J101 EAR
CN104 VIDEO OUT
BATT
VTR
L1 33μ
C1 0.01
C2 0.01
C3 0.01
C4 0.01
C5 0.01


HN-42
BUILT IN MIC
MIC
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
CN16
CN17
CN18
CN19
CN20
CN21
S3
AUTO B/W BALANCE
WHT
BLK
L1 33μ
C1 0.01
C2 0.01
C3 0.01
C4 0.01
Q101 2SB856
SWB-13
S1 VTR S/S
S2 ABL
ON
OFF
VTR START/STOP OUT
ABL ON/OFF OUT
GND
J101 EAR
CN103 MIC IN(J)
CN103 MIC IN(UC)
CN103 MIC IN(EK)
R101 620
CN104 VIDEO OUT
CN105 GENLOCK IN
CN-36
S1 VTR SELECT
JK1 INTERCOM
C101 0.01
C102 0.01
BATTERY NP-1
S102
VTR
CCU
CN106 VTR/CCU/CMA (WIRING SIDE)
CN-111
PW UNIT
CN107 DC IN

FRAME
CN-36
CN-111
HN-42
SW-29
SW-30
SWB-13

DXC-3000 (UC,J)
DXC-3000P(EK)

SECTION 5
SEMICONDUCTOR PIN ASSIGNMENT

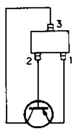
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
1S2348H	5-2
1S2835	5-2
1S2837	5-2
1S955	5-2
1SS123	5-2
2SA1226	5-2
2SA812	5-2
2SB811	5-2
2SC1623	5-2
2SC2757	5-2
2SC2878	5-2
2SD774	5-2
2SD1020	5-2
2SJ44	5-2
2SK94	5-2
2SK152	5-2
3SK163	5-2
AN6041	5-3
BX1337	5-3
BX1340	5-3
BX1348	5-3
BX1349	5-3
BX1350	5-3
BX1351	5-4
CX20011	5-4
CX20180	5-4
CX22017	5-4
CX23047B	5-5
CX518	5-7
CX7930A	5-8
CX815	5-9
ERA81-004	5-2
HD44860B42	5-10
HZ3ALL	5-2
HZ5BLL	5-2
MC14557BCP	5-10
MMH0026CP1	5-10
MN1237AD	5-11
NJM1496M	5-11
NJM2043D-D	5-11
NJM2903D	5-11
NJM2903M	5-11
RD2.7E	5-2
RD4.3EB	5-2
RD5.1MB2	5-2
RD5.6MB2	5-2
RD6.2MB2	5-2
RD6.8EB	5-2
RD12EB1	5-2
RD12MB1	5-2
SN74LS123N	5-11
SN74LS221N	5-11
TA78L012AP	5-12
TC4001BP	5-12
TC4051BP	5-12
TC4053BF	5-12
TC4053BP	5-12
TC4069UBP	5-12
TC40H000P	5-12
TC40H008F	5-12
TC40H076AP	5-13
TC74HC08F	5-13
TC74HC14F	5-13
TL062CP	5-13
TL062CPS	5-13
TL064CN	5-13
TL082CP	5-13
uA711CN	5-13
uA733CN	5-13
uPC311C	5-14
uPC358C	5-14
uPC4558C	5-14

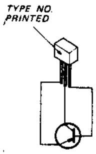
Tr. Di

TOP VIEW (SCALE 4/1)

2SA812

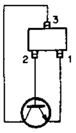


2SB811

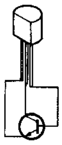

TYPE NO. PRINTED

TOP VIEW (SCALE 4/1)

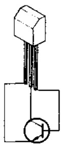
2SC1623
2SC2757



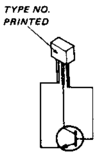
2SC2878



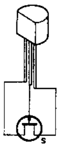
2SD774



2SD1020

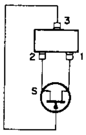

TYPE NO. PRINTED

2SJ44

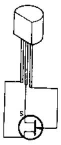


TOP VIEW (SCALE 4/1)

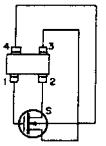
2SK94



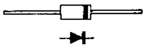
2SK152



3SK163

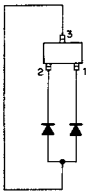


1S2348H



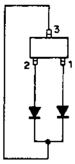
TOP VIEW (SCALE 4/1)

1S2835

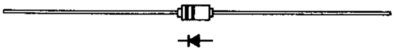


TOP VIEW (SCALE 4/1)

1S2837

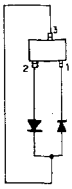


1S955

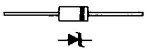


TOP VIEW (SCALE 4/1)

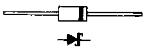
1SS123



HZ ? ?LL
RD ? ?E
RD ? ?EB

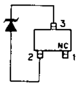


ERA81-004

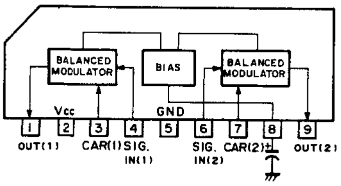


TOP VIEW (SCALE 4/1)

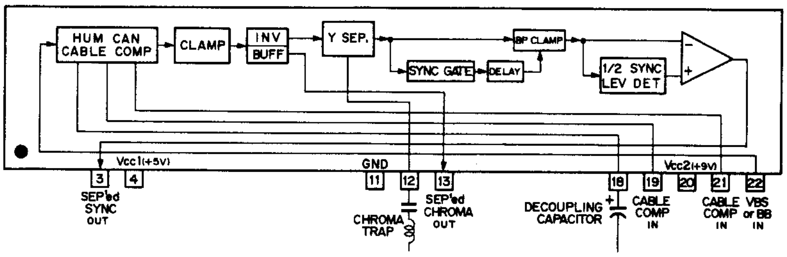
RD ? ?MB



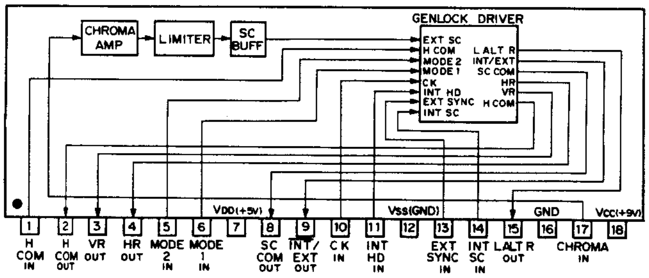
AN6041 (PANASONIC)
DUAL-BALANCED MODULATOR
— SIDE VIEW —


BALANCED MODULATOR
BIAS
BALANCED MODULATOR
Vcc
GND
1
2
3
4
5
6
7
8
9
OUT(1)
CAR(1)
SIG. IN(1)
SIG. IN(2)
CAR(2)
OUT(2)

BX1337 (SONY)
SYNC SEPARATOR
— REAR VIEW —


HUM CAN CABLE COMP
CLAMP
INV BUFF
Y SEP.
BP CLAMP
SYNC GATE
DELAY
1/2 SYNC LEV DET
Vcc1(+5V)
GND
Vcc2(+9V)
3
4
11
12
13
18
19
20
21
22
SEP'ed SYNC OUT
CHROMA TRAP
SEP'ed CHROMA OUT
DECOUPLING CAPACITOR
CABLE COMP IN
CABLE COMP IN
VBS or BB IN

BX1340 (SONY)
SC LIMITER AND GENLOCK DRIVER
— REAR VIEW —

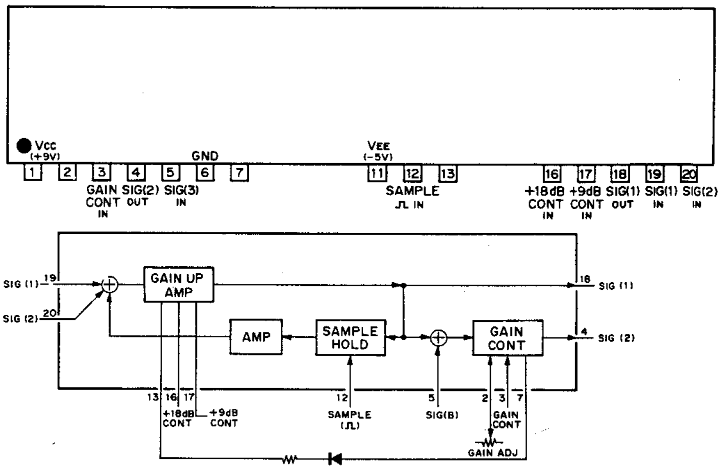

CHROMA AMP
LIMITER
SC BUFF
GENLOCK DRIVER
EXT SC
H COM
MODE 2
MODE 1
CK
INT HD
EXT SYNC
INT SC
L ALT R
INT/EXT
SC COM
HR
VR
H COM
VDD(+5V)
Vss(GND)
GND
Vcc(+9V)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
H COM IN
H COM OUT
VR OUT
HR OUT
MODE 2 IN
MODE 1 IN
SC COM OUT
INT/EXT OUT
CK IN
INT HD IN
EXT SYNC IN
INT SC IN
L ALT R OUT
CHROMA IN

MODE SELECTION

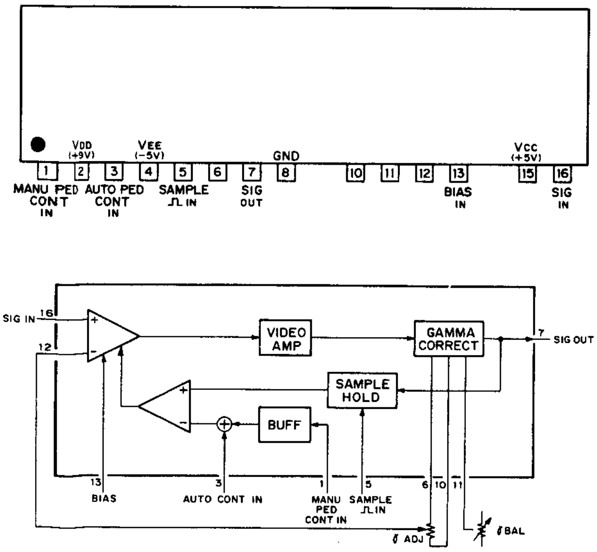
MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

0; LOW LEVEL
1; HIGH LEVEL

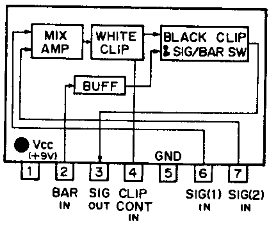
BX1349 (SONY)
VIDEO AMPLIFIER
— PRINTED SIDE VIEW —


Vcc (+9V)
GND
VEE (-5V)
1
2
3
4
5
6
7
11
12
13
16
17
18
19
20
GAIN CONT IN
SIG(2) OUT
SIG(3) IN
SAMPLE ⎍ IN
+18dB CONT IN
+9dB CONT IN
SIG(1) OUT
SIG(1) IN
SIG(2) IN
SIG (1)
SIG (2)
GAIN UP AMP
AMP
SAMPLE HOLD
GAIN CONT
SIG (1)
SIG (2)
+18dB CONT
+9dB CONT
SAMPLE (⎍)
SIG(B)
GAIN CONT
GAIN ADJ

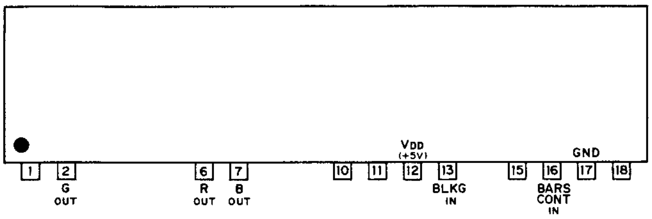
BX1348 (SONY)
PEDESTAL SET AND GAMMA CORRECT
— PRINTED SIDE VIEW —

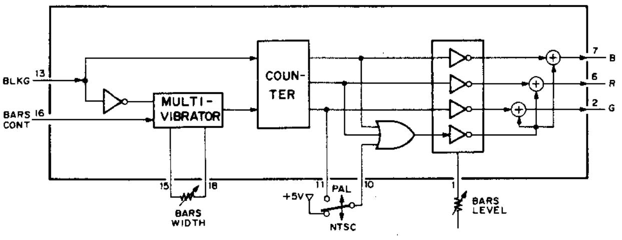

VDD (+9V)
VEE (-5V)
GND
Vcc (+5V)
1
2
3
4
5
6
7
8
10
11
12
13
15
16
MANU PED CONT IN
AUTO PED CONT IN
SAMPLE ⎍ IN
SIG OUT
BIAS IN
SIG IN
SIG IN
VIDEO AMP
GAMMA CORRECT
SIG OUT
SAMPLE HOLD
BUFF
BIAS
AUTO CONT IN
MANU PED CONT IN
SAMPLE ⎍ IN
γ ADJ
γ BAL

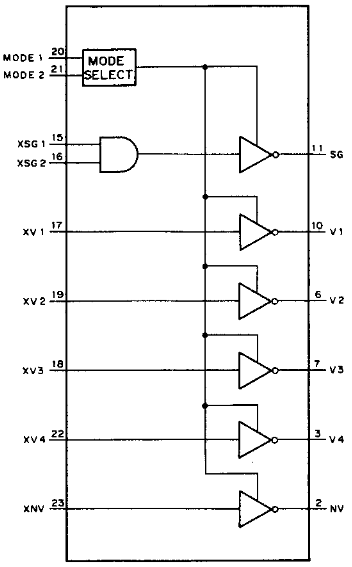
BX1350 (SONY)
MIX AMP, WHITE CLIP AND BLACK CLIP AMPLIFIER
— PRINTED SIDE VIEW —


MIX AMP
WHITE CLIP
BLACK CLIP & SIG/BAR SW
BUFF
Vcc (+9V)
GND
1
2
3
4
5
6
7
BAR IN
SIG OUT
CLIP CONT IN
SIG(1) IN
SIG(2) IN

BX1351 (SONY)
COLOR BAR GENERATOR
— PRINTED SIDE VIEW —


VDD
(+5V)
GND
1
2
G
OUT
6
R
OUT
7
B
OUT
10
11
12
13
BLKG
IN
15
16
BARS
CONT
IN
17
18

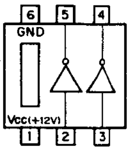

BLKG 13
BARS CONT 16
MULTI-
VIBRATOR
COUN-
TER
7 B
6 R
2 G
15
18
BARS
WIDTH
+5V
11
PAL
10
NTSC
1
BARS
LEVEL

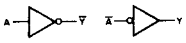

MODE 1 20
MODE 2 21
MODE
SELECT
XSG 1 15
XSG 2 16
11 SG
XV 1 17
10 V1
XV 2 19
6 V2
XV 3 18
7 V3
XV 4 22
3 V4
XNV 23
2 NV

MODE SELECTION

1	2	MODE
1	1	POWER SAVE
1	0	NORMAL
0	1	
0	0	

CX20011 (SONY)
HIGH SPEED INVERTING DRIVER
(C-MOS AND TTL COMPATIBLE)
— TOP VIEW —

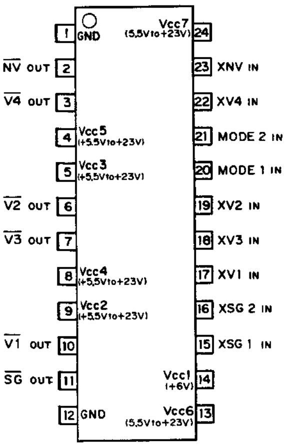

6
5
4
GND
Vcc(+12V)
1
2
3

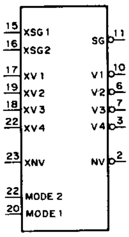

A
$\overline{Y}$
$\overline{A}$
Y

A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

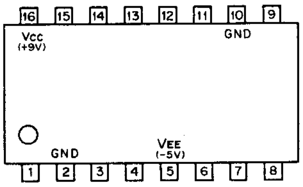
CX20180 (SONY)
INVERTING DRIVER FOR CCD CLOCK WITH POWER SAVE
— TOP VIEW —

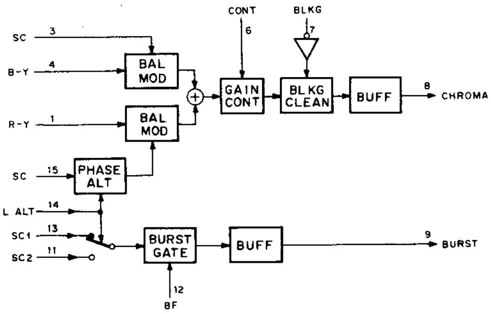

1 GND
$\overline{NV}$ OUT 2
$\overline{V4}$ OUT 3
4 Vcc5 (+5.5V to +23V)
5 Vcc3 (+5.5V to +23V)
$\overline{V2}$ OUT 6
$\overline{V3}$ OUT 7
8 Vcc4 (+5.5V to +23V)
9 Vcc2 (+5.5V to +23V)
$\overline{V1}$ OUT 10
$\overline{SG}$ OUT 11
12 GND
Vcc7 (5.5V to +23V) 24
23 XNV IN
22 XV4 IN
21 MODE 2 IN
20 MODE 1 IN
19 XV2 IN
18 XV3 IN
17 XV1 IN
16 XSG 2 IN
15 XSG 1 IN
Vcc1 (+6V) 14
Vcc6 (5.5V to +23V) 13


15 XSG1
16 XSG2
SG 11
17 XV1
19 XV2
18 XV3
22 XV4
V1 10
V2 6
V3 7
V4 3
23 XNV
NV 2
22 MODE 2
20 MODE 1

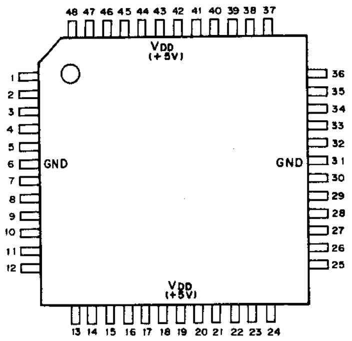
XV1–XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
$\overline{V1}$ – $\overline{V4}$; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
XSG1 , XSG2 ; SENSER GATE PULSE INPUT
$\overline{SG}$; SENSER GATE PULSE OUTPUT
H BLKG ; HORIZONTAL BLANKING PULSE INPUT
XNV ; DRIVER INPUT
$\overline{NV}$; DRIVER OUTPUT
VAA ; VERTICAL PREBLANKING PULSE INPUT

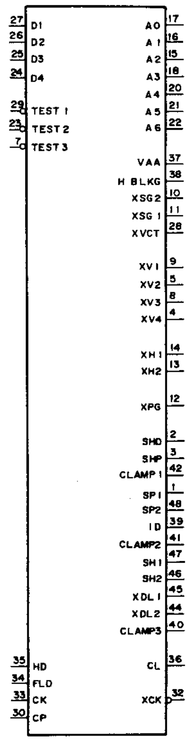
CX22017 (SONY)
VIDEO SIGNAL PROCESSOR
— TOP VIEW —

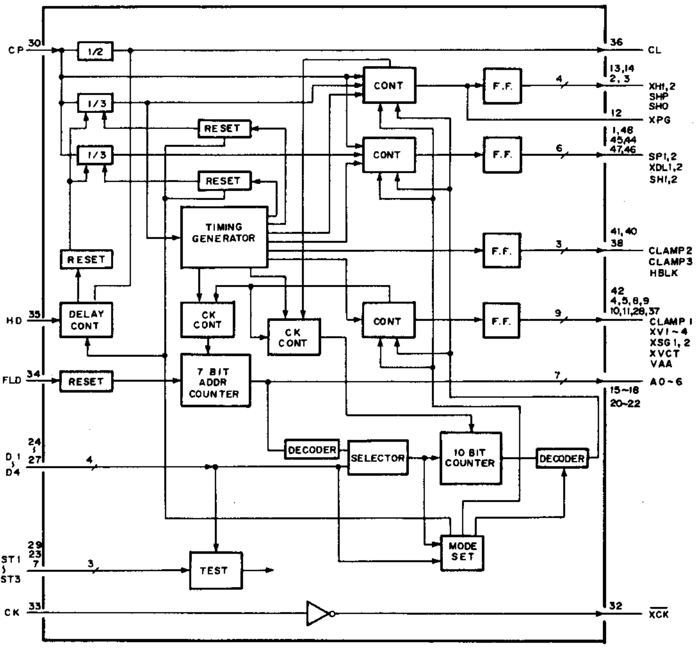

16
15
14
13
12
11
10
9
Vcc
(+9V)
GND
GND
VEE
(-5V)
1
2
3
4
5
6
7
8


CONT
BLKG
SC 3
B-Y 4
R-Y 1
BAL
MOD
6
7
GAIN
CONT
BLKG
CLEAN
BUFF
8 CHROMA
SC 15
PHASE
ALT
L ALT 14
SC1 13
SC2 11
BURST
GATE
BUFF
9 BURST
12
BF

CX23047B (SONY) FLAT PACKAGE
C-MOS TIMING PULSE GENERATOR WITH CX7930 FOR CCD CAMERA
— TOP VIEW —


48 47 46 45 44 43 42 41 40 39 38 37
VDD (+5V)
1 2 3 4 5 6 7 8 9 10 11 12
GND
GND
36 35 34 33 32 31 30 29 28 27 26 25
VDD (+5V)
13 14 15 16 17 18 19 20 21 22 23 24


27 D1
26 D2
25 D3
24 D4
29 TEST 1
23 TEST 2
7 TEST 3
35 HD
34 FLD
33 CK
30 CP
A0 17
A1 16
A2 15
A3 18
A4 20
A5 21
A6 22
VAA 37
H BLKG 38
XSG2 10
XSG1 11
XVCT 28
XV1 9
XV2 5
XV3 8
XV4 4
XH1 14
XH2 13
XPG 12
SHD 2
SHP 3
CLAMP1 42
SP1 1
SP2 48
ID 39
CLAMP2 41
SH1 47
SH2 46
XDL1 45
XDL2 44
CLAMP3 40
CL 36
XCK 32

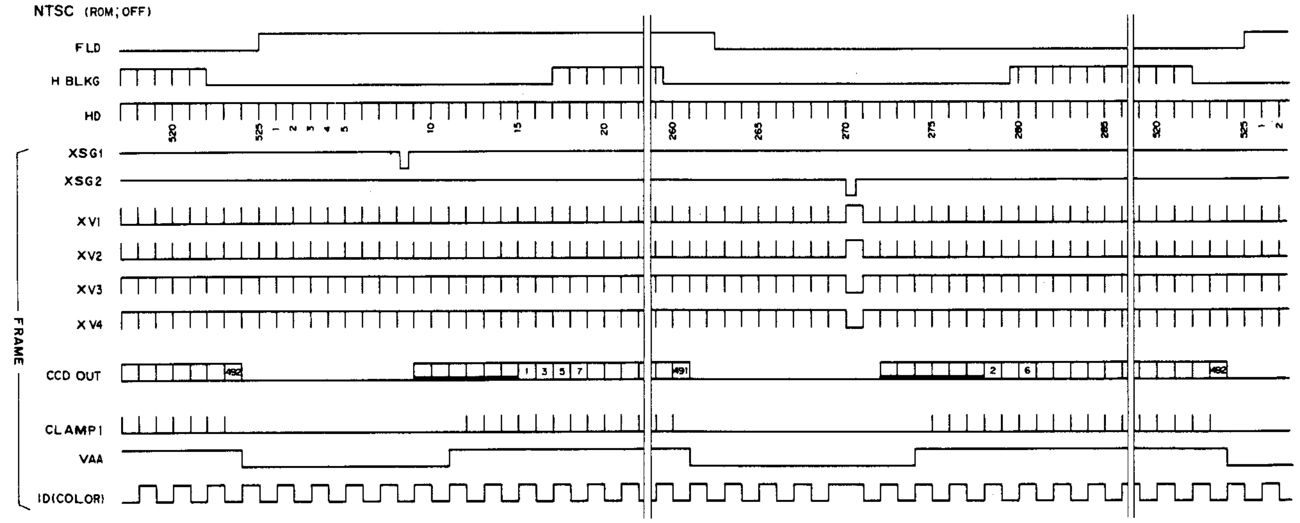

CP 30
1/2
1/3
1/3
RESET
RESET
RESET
TIMING GENERATOR
CONT
CONT
CONT
F.F.
F.F.
F.F.
F.F.
HD 35
DELAY CONT
CK CONT
CK CONT
FLD 34
RESET
7 BIT ADDR COUNTER
D1 ~ D4 24 ~ 27
4
DECODER
SELECTOR
10 BIT COUNTER
DECODER
TEST1 ~ TEST3 29 23 7
3
TEST
MODE SET
CK 33
36 CL
13,14 2,3 4 XH1,2 SHP SHD
12 XPG
1,48 45,44 47,46 6 SP1,2 XDL1,2 SH1,2
41,40 38 3 CLAMP2 CLAMP3 HBLK
42 4,5,8,9 10,11,28,37 9 CLAMP1 XV1~4 XSG1,2 XVCT VAA
7 15~18 20~22 A0~6
32 XCK

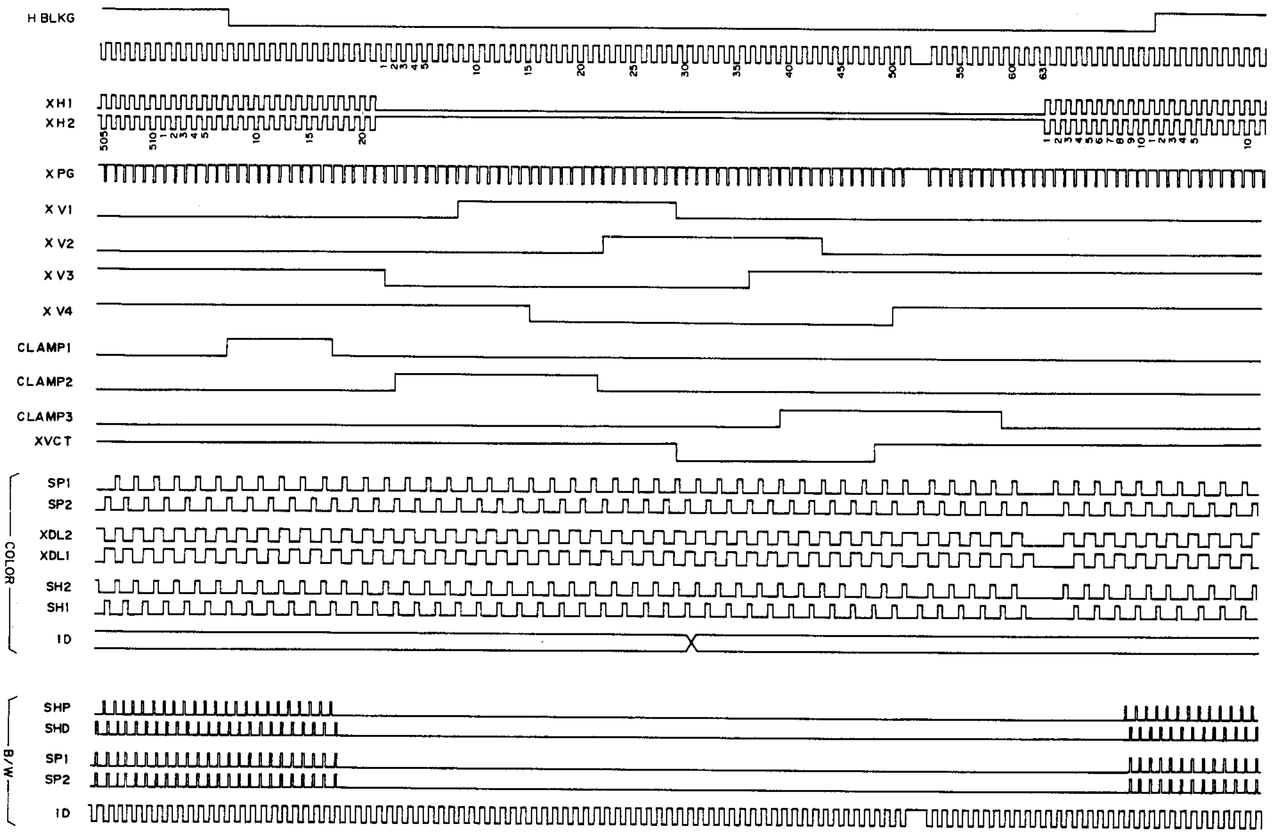
D1 — D4 ; EXTERNAL ROM DATA INPUT
A0 — A6 ; EXTERNAL ROM ADDRESS INPUT

MODE SELECTION WITHOUT ROM

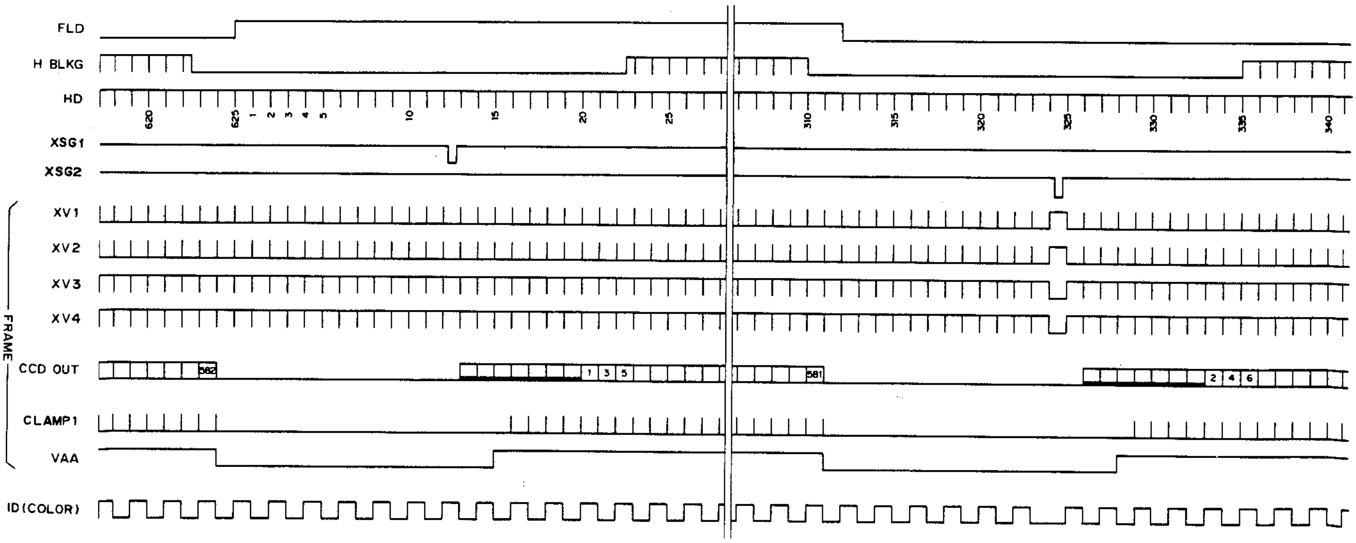
DATA INPUT				MODE	
D1	D2	D3	D4		
GND	GND	Vcc	GND	B/W	CCIR
GND	GND	Vcc	Vcc		NTSC
GND	Vcc	Vcc	GND	COLOR	CCIR
GND	Vcc	Vcc	Vcc		NTSC

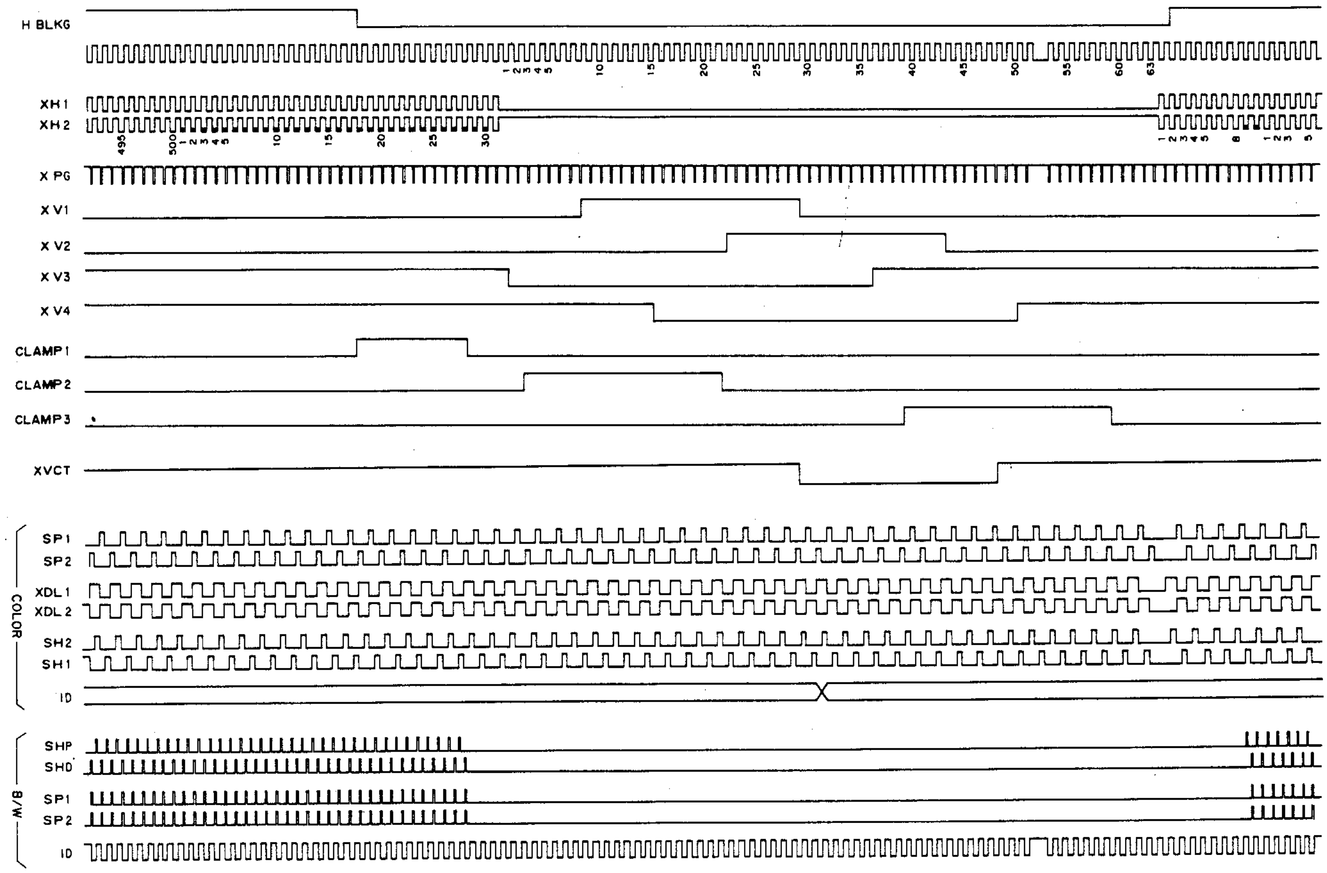
NTSC (ROM; OFF)



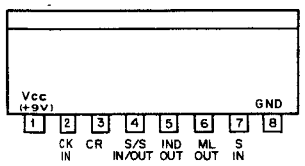

H BLKG
1 2 3 4 5 10 15 20 25 30 35 40 45 50 55 60 63
XH1
XH2
505 510 1 2 3 4 5 10 15 20
1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 10
XPG
X V1
X V2
X V3
X V4
CLAMP1
CLAMP2
CLAMP3
XVCT
COLOR
SP1
SP2
XDL2
XDL1
SH2
SH1
ID
B/W
SHP
SHD
SP1
SP2
ID

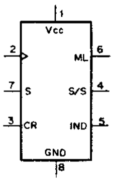
PAL (ROM; OFF)

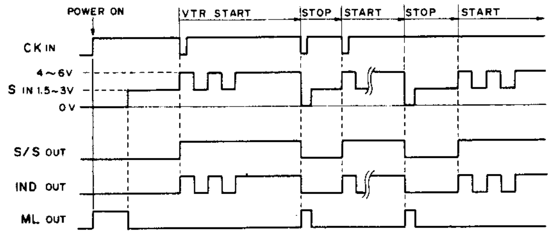

FLD
H BLKG
HD
620 625 1 2 3 4 5 10 15 20 25 310 315 320 325 330 335 340
XSG1
XSG2
FRAME
XV1
XV2
XV3
XV4
CCD OUT
582
1 3 5
581
2 4 6
CLAMP1
VAA
ID(COLOR)

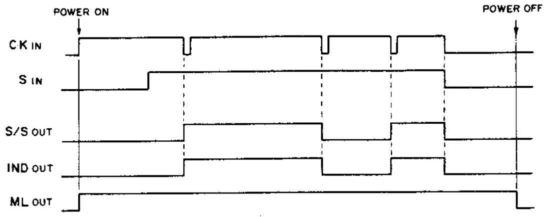

H BLKG
1 2 3 4 5
10
15
20
25
30
35
40
45
50
55
60
63
XH1
XH2
495
500
1 2 3 4 5
10
15
20
25
30
1 2 3 4 5
8
1 2 3
5
X PG
X V1
X V2
X V3
X V4
CLAMP1
CLAMP2
CLAMP3
XVCT
COLOR
SP1
SP2
XDL1
XDL2
SH2
SH1
ID
B/W
SHP
SHD
SP1
SP2
ID

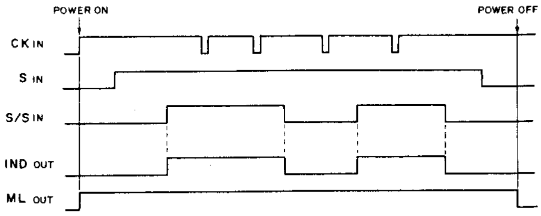
CX518 (SONY)
INTERFACE CIRCUIT BETWEEN VTR AND CAMERA
— SIDE VIEW —


Vcc
(+9V)
GND
1
2
3
4
5
6
7
8
CK IN
CR
S/S IN/OUT
IND OUT
ML OUT
S IN

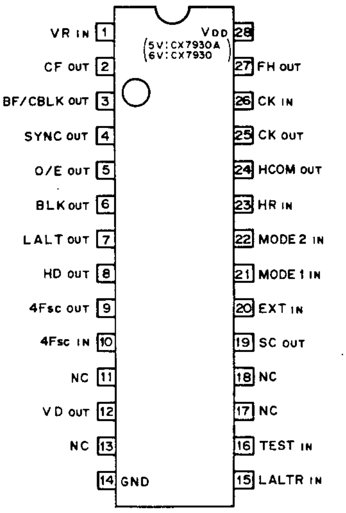

1
Vcc
2
6
ML
7
S
S/S
4
3
CR
IND
5
GND
8

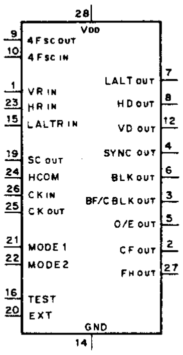

POWER ON
VTR START
STOP
START
STOP
START
CK IN
4~6V
S IN 1.5~3V
0V
S/S OUT
IND OUT
ML OUT


POWER ON
POWER OFF
CK IN
S IN
S/S OUT
IND OUT
ML OUT


POWER ON
POWER OFF
CK IN
S IN
S/S IN
IND OUT
ML OUT

CX7930A (SONY) FLAT PACKAGE
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
— TOP VIEW —


VR IN 1
CF OUT 2
BF/CBLK OUT 3
SYNC OUT 4
O/E OUT 5
BLK OUT 6
LALT OUT 7
HD OUT 8
4Fsc OUT 9
4Fsc IN 10
NC 11
VD OUT 12
NC 13
14 GND
15 LALTR IN
16 TEST IN
17 NC
18 NC
19 SC OUT
20 EXT IN
21 MODE 1 IN
22 MODE 2 IN
23 HR IN
24 HCOM OUT
25 CK OUT
26 CK IN
27 FH OUT
28 VDD
(5V: CX7930A)
(6V: CX7930)


28 VDD
9 4Fsc OUT
10 4Fsc IN
1 VR IN
23 HR IN
15 LALTR IN
19 SC OUT
24 HCOM
26 CK IN
25 CK OUT
21 MODE 1
22 MODE 2
16 TEST
20 EXT
LALT OUT 7
HD OUT 8
VD OUT 12
SYNC OUT 4
BLK OUT 6
BF/CBLK OUT 3
O/E OUT 5
CF OUT 2
FH OUT 27
GND 14

O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

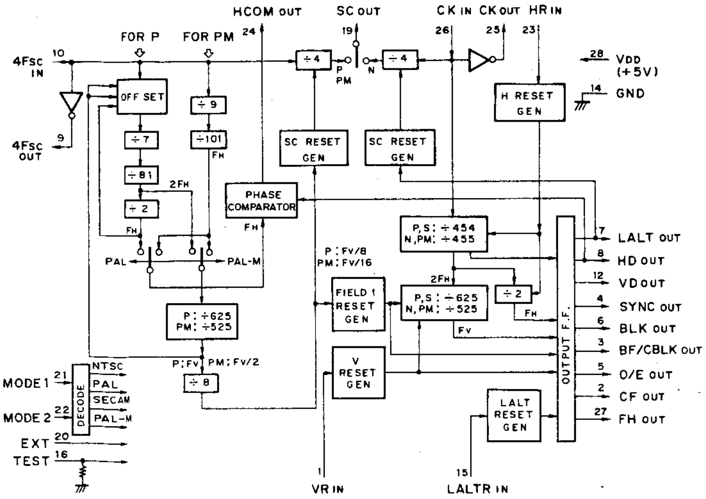
SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910FH
PAL	1135FH+2FV	908FH
PALM	909FH	910FH
SECAM	———	908FH

INPUTS		SYSTEM
MODE 1	MODE 2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

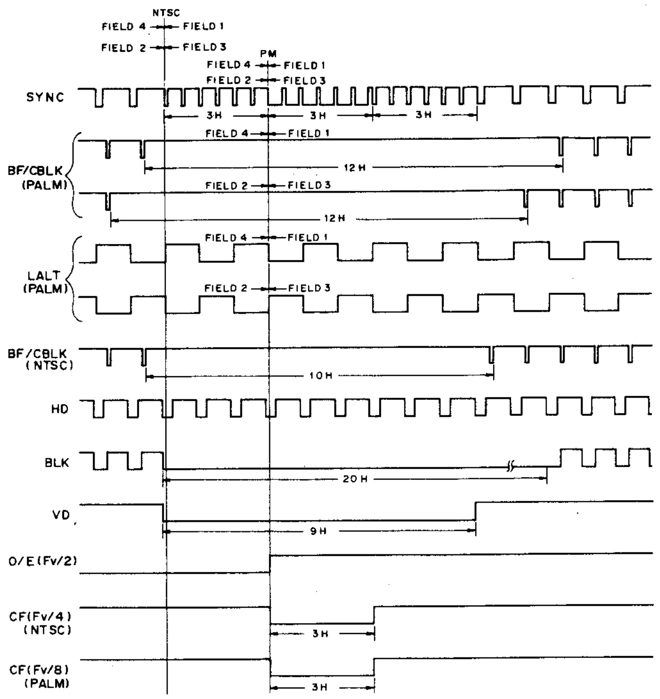
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

INPUTS		FUNCTION
EXT	TEST	
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

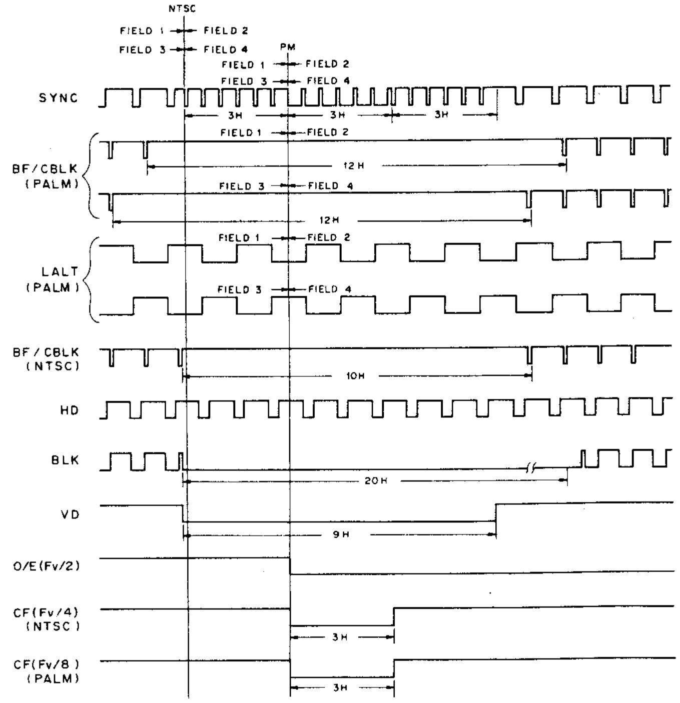
TEST "0": OPEN (INTERNALLY PULLED DOWN)

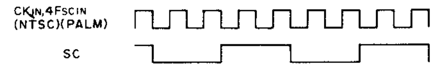

HCOM OUT
SC OUT
CK IN
CK OUT
HR IN
FOR P
FOR PM
4Fsc IN 10
4Fsc OUT 9
OFF SET
÷7
÷81
÷2
÷9
÷101
FH
2FH
PAL
PAL-M
P: ÷625
PM: ÷525
P: FV
PM: FV/2
÷8
PHASE COMPARATOR
÷4
P
PM
N
SC RESET GEN
H RESET GEN
P: FV/8
PM: FV/16
P,S: ÷454
N,PM: ÷455
P,S: ÷625
N,PM: ÷525
FIELD 1 RESET GEN
V RESET GEN
LALT RESET GEN
FV
OUTPUT F.F.
28 VDD (+5V)
14 GND
7 LALT OUT
8 HD OUT
12 VD OUT
4 SYNC OUT
6 BLK OUT
3 BF/CBLK OUT
5 O/E OUT
2 CF OUT
27 FH OUT
MODE 1 21
MODE 2 22
DECODE
NTSC
PAL
SECAM
PAL-M
EXT 20
TEST 16
1 VR IN
15 LALTR IN

NTSC, PAL-M (FIELD 1,3)

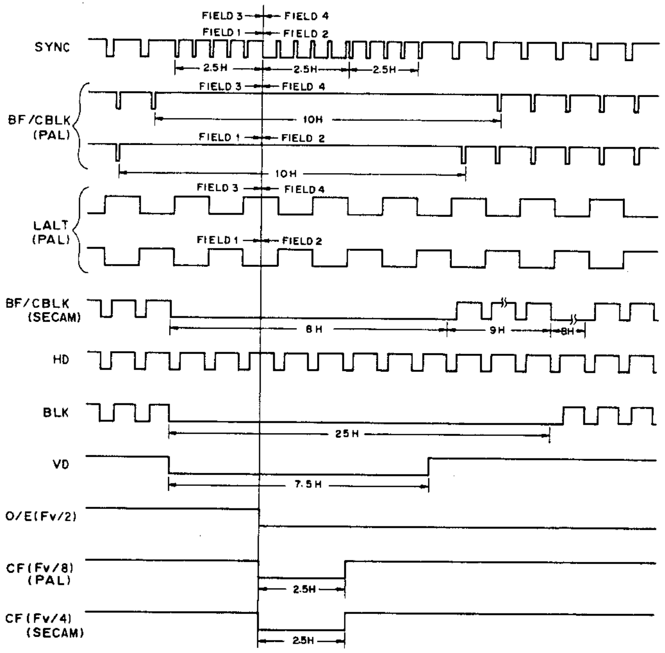

NTSC
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
PM
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
SYNC
3H
3H
3H
BF/CBLK (PALM)
12H
12H
LALT (PALM)
BF/CBLK (NTSC)
10H
HD
BLK
20H
VD
9H
O/E (FV/2)
CF (FV/4) (NTSC)
3H
CF (FV/8) (PALM)
3H

NTSC, PAL-M (FIELD 2,4)

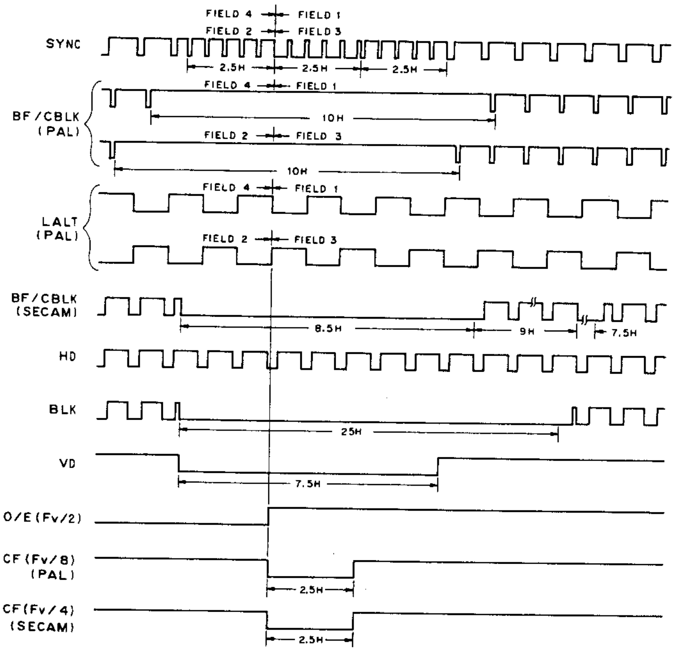

NTSC
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
PM
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
SYNC
3H
3H
3H
BF/CBLK (PALM)
12H
12H
LALT (PALM)
BF/CBLK (NTSC)
10H
HD
BLK
20H
VD
9H
O/E (FV/2)
CF (FV/4) (NTSC)
3H
CF (FV/8) (PALM)
3H

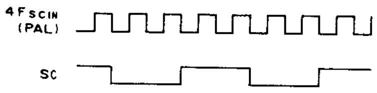

CKIN, 4FscIN (NTSC)(PALM)
SC

PAL, SECAM (FIELD 4, 2)

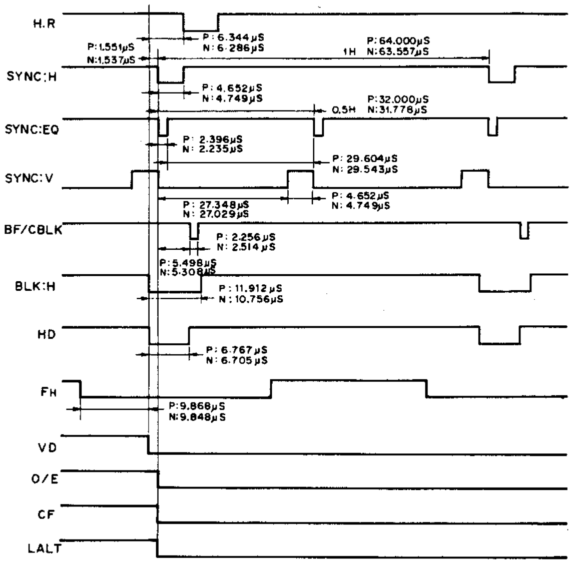

FIELD 3 FIELD 4
FIELD 1 FIELD 2
SYNC
2.5H
2.5H
2.5H
FIELD 3 FIELD 4
BF/CBLK (PAL)
10H
FIELD 1 FIELD 2
10H
FIELD 3 FIELD 4
LALT (PAL)
FIELD 1 FIELD 2
BF/CBLK (SECAM)
8H
9H
8H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H

PAL, SECAM (FIELD1,3)

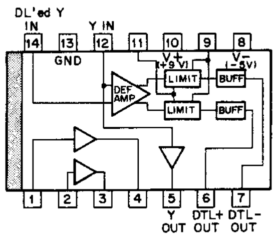

FIELD 4 FIELD 1
FIELD 2 FIELD 3
SYNC
2.5H
2.5H
2.5H
FIELD 4 FIELD 1
BF/CBLK (PAL)
10H
FIELD 2 FIELD 3
10H
FIELD 4 FIELD 1
LALT (PAL)
FIELD 2 FIELD 3
BF/CBLK (SECAM)
8.5H
9H
7.5H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H


4FSCIN (PAL)
SC

P: PAL, SECAM
N: NTSC, PALM


H.R
P:6.344μS
N:6.286μS
P:1.551μS
N:1.537μS
P:64.000μS
1H N:63.557μS
SYNC:H
P:4.652μS
N:4.749μS
P:32.000μS
0.5H N:31.778μS
SYNC:EQ
P:2.396μS
N:2.235μS
P:29.604μS
N:29.543μS
SYNC:V
P:27.348μS
N:27.029μS
P:4.652μS
N:4.749μS
BF/CBLK
P:2.256μS
N:2.514μS
P:5.498μS
N:5.306μS
BLK:H
P:11.912μS
N:10.756μS
HD
P:6.767μS
N:6.705μS
FH
P:9.868μS
N:9.848μS
VD
O/E
CF
LALT

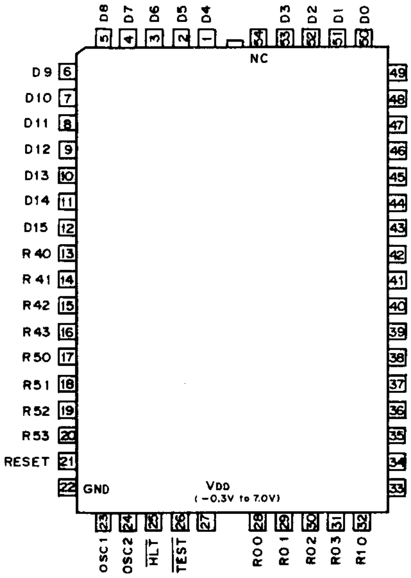
CX815 (SONY)
DTL AMPLIFIER
— TOP VIEW —

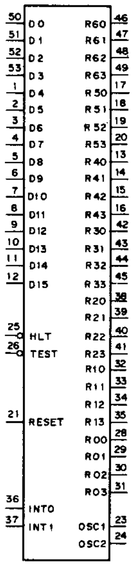

DL'ed Y IN
Y IN
14
13
12
11
10
9
8
GND
V+ (+9V)
V- (-5V)
DEF AMP
LIMIT
LIMIT
BUFF
BUFF
1
2
3
4
5
6
7
Y OUT
DTL+ OUT
DTL- OUT

HD44860B42 (HITACHI) FLAT PACKAGE

C-MOS 4-BIT MICROPROCESSOR

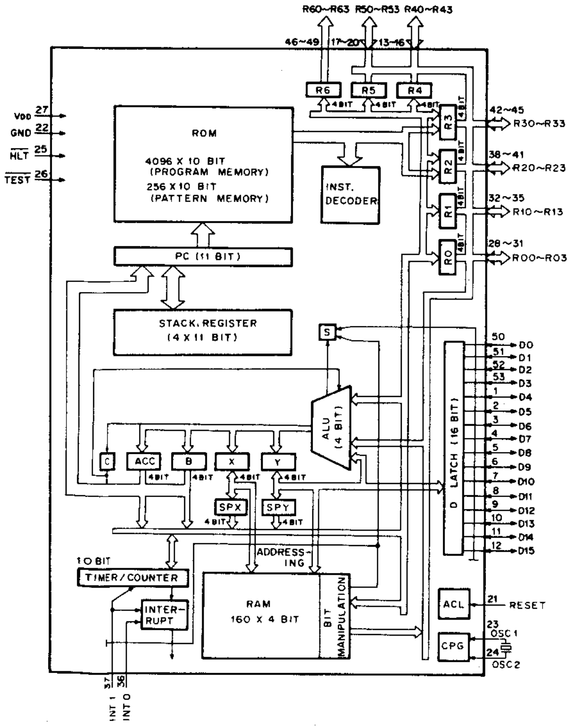
— TOP VIEW —


D8 5
D7 4
D6 3
D5 2
D4 1
NC
D3 53
D2 52
D1 51
D0 50
D9 6
D10 7
D11 8
D12 9
D13 10
D14 11
D15 12
R40 13
R41 14
R42 15
R43 16
R50 17
R51 18
R52 19
R53 20
RESET 21
22 GND
VDD (−0.3V to 7.0V)
49 R63
48 R62
47 R61
46 R60
45 R33
44 R32
43 R31
42 R30
41 R23
40 R22
39 R21
38 R20
37 INT1
36 INT0
35 R13
34 R12
33 R11
OSC1 23
OSC2 24
HLT 25
TEST 26
27
R00 28
R01 29
R02 30
R03 31
R10 32


50 D0
51 D1
52 D2
53 D3
1 D4
2 D5
3 D6
4 D7
5 D8
6 D9
7 D10
8 D11
9 D12
10 D13
11 D14
12 D15
25 HLT
26 TEST
21 RESET
36 INT0
37 INT1
R60 46
R61 47
R62 48
R63 49
R50 17
R51 18
R52 19
R53 20
R40 13
R41 14
R42 15
R43 16
R30 42
R31 43
R32 44
R33 45
R20 38
R21 39
R22 40
R23 41
R10 32
R11 33
R12 34
R13 35
R00 28
R01 29
R02 30
R03 31
OSC1 23
OSC2 24

D0-D15 ; DATA INPUT/OUTPUT
R00-R03; R10-R13; R20-R23; R30-R33; R40-R43; R50-R53; REGIST INPUT/OUTPUT
R60-R63; REGIST OUTPUT

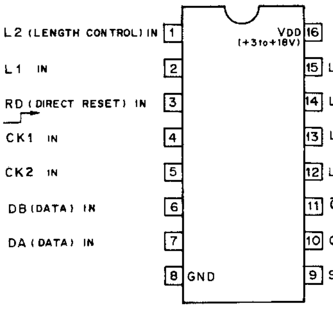
RESET ;RESET INPUT
OSC1,OSC2 ;OSCILLATOR INPUT
INT0, INT1 ; INTERRUPT INPUT
TEST ; TEST INPUT
HLT ; HALT INPUT

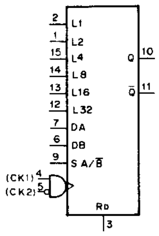

R60~R63 R50~R53 R40~R43
46~49 17~20 13~16
R6 R5 R4
4 BIT
VDD 27
GND 22
HLT 25
TEST 26
ROM
4096 X 10 BIT (PROGRAM MEMORY)
256 X 10 BIT (PATTERN MEMORY)
INST. DECODER
R3 R2 R1 R0
42~45 R30~R33
38~41 R20~R23
32~35 R10~R13
28~31 R00~R03
PC (11 BIT)
STACK. REGISTER (4 X 11 BIT)
S
ALU (4 BIT)
D LATCH (16 BIT)
50 D0
51 D1
52 D2
53 D3
1 D4
2 D5
3 D6
4 D7
5 D8
6 D9
7 D10
8 D11
9 D12
10 D13
11 D14
12 D15
C ACC B X Y
SPX SPY
10 BIT
TIMER/COUNTER
INTER-RUPT
ADDRESS-ING
RAM 160 X 4 BIT
BIT MANIPULATION
ACL
21 RESET
CPG
23 OSC1
24 OSC2
INT1 37
INT0 36

MC14557BCP (MOTOROLA)

C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER

— TOP VIEW —


L2 (LENGTH CONTROL) IN 1
L1 IN 2
RD (DIRECT RESET) IN 3
CK1 IN 4
CK2 IN 5
DB (DATA) IN 6
DA (DATA) IN 7
8 GND
VDD (+3 to +18V) 16
15 L4 IN
14 L8 IN
13 L16 IN
12 L32 IN
11 Q̄ OUT
10 Q OUT
9 SA/B̄ (DATA A OR B SELECT) IN


2 L1
1 L2
15 L4
14 L8
13 L16
12 L32
7 DA
6 DB
9 SA/B̄
(CK1) 4
(CK2) 5
RD
3
Q 10
Q̄ 11

LENGTH SELECT TRUTH TABLE

L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1-BIT
0	0	0	0	0	1	2-BIT
0	0	0	0	1	0	3-BIT
0	0	0	0	1	1	4-BIT
0	0	0	1	0	0	5-BIT
⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	0	0	61-BIT
1	1	1	1	0	1	62-BIT
1	1	1	1	1	0	63-BIT
1	1	1	1	1	1	64-BIT

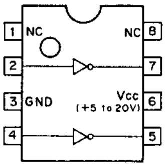
INPUTS				OUTPUT
RD	SA/B̄	CK1	CK2	Q
0	0	↑	0	DB
0	1	↑	0	DA
0	0	1	↓	DB
0	1	1	↓	DA
1	X	X	X	0

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MMH0026CP1 (MOTOROLA)

BIPOLAR MOS CLOCK DRIVER

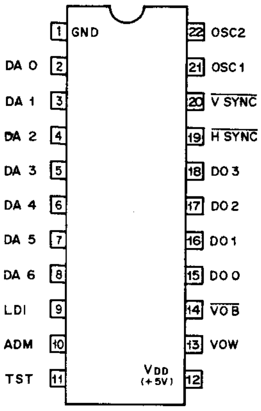
— TOP VIEW —

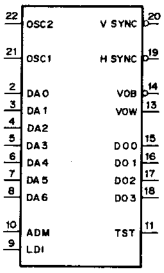

1 NC
2
3 GND
4
NC 8
7
Vcc (+5 to 20V) 6
5

MN1237AD (MATSUSHITA)

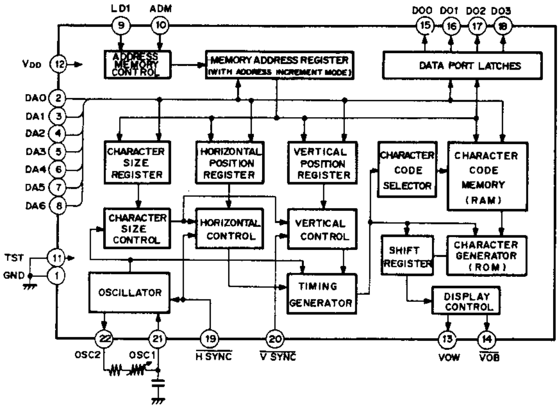
C-MOS INDICATES DATA OF 60 CHARACTERS CRT INTERFACE

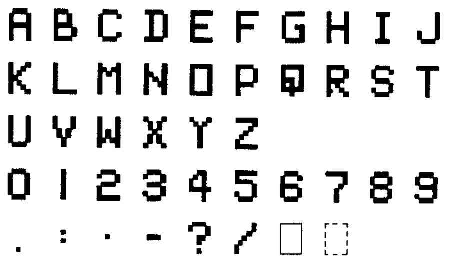
— TOP VIEW —


1 GND
DA 0 2
DA 1 3
DA 2 4
DA 3 5
DA 4 6
DA 5 7
DA 6 8
LDI 9
ADM 10
TST 11
VDD (+5V) 12
13 VOW
14 VOB
15 DO 0
16 DO 1
17 DO 2
18 DO 3
19 H SYNC
20 V SYNC
21 OSC 1
22 OSC2


22 OSC2
21 OSC1
2 DA0
3 DA1
4 DA2
5 DA3
6 DA4
7 DA5
8 DA6
10 ADM
9 LDI
V SYNC 20
H SYNC 19
VOB 14
VOW 13
DO0 15
DO1 16
DO2 17
DO3 18
TST 11

ADM ; ADDRESS MODE SELECT I
DAO～DA6 ; DATA BUS INPUT
DOO～DO3 ; GENERAL OUTPUT
H SYNC ; H SYNC INPUT
LDI ; STROBE PULSE INPUT
OSC1,2 ; OSC
TST ; TEST
VOB ; BACKGROUND OUTPUT
VOW ; CHARACTERS OUTPUT
V SYNC ; V SYNC INPUT

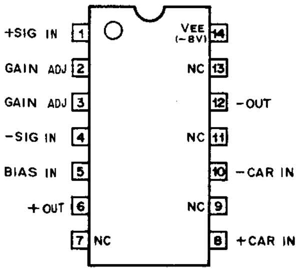

LD1
ADM
DO0 DO1 DO2 DO3
VDD
ADDRESS MEMORY CONTROL
MEMORY ADDRESS REGISTER (WITH ADDRESS INCREMENT MODE)
DATA PORT LATCHES
DA0
DA1
DA2
DA3
DA4
DA5
DA6
CHARACTER SIZE REGISTER
HORIZONTAL POSITION REGISTER
VERTICAL POSITION REGISTER
CHARACTER CODE SELECTOR
CHARACTER CODE MEMORY (RAM)
CHARACTER SIZE CONTROL
HORIZONTAL CONTROL
VERTICAL CONTROL
SHIFT REGISTER
CHARACTER GENERATOR (ROM)
TST
GND
OSCILLATOR
TIMING GENERATOR
DISPLAY CONTROL
OSC2
OSC1
H SYNC
V SYNC
VOW
VOB

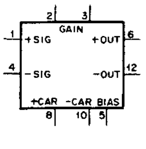

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
0 1 2 3 4 5 6 7 8 9
. : · - ? /

NJM1496M (JRC) FLAT PACKAGE

BALANCED MODULATOR/DEMODULATOR

— TOP VIEW —

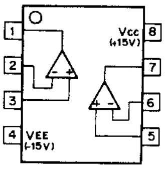

+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
-SIG IN 4
BIAS IN 5
+OUT 6
7 NC
VEE (-8V) 14
NC 13
12 -OUT
NC 11
10 -CAR IN
NC 9
8 +CAR IN


2
3
GAIN
1 +SIG
+OUT 6
4 -SIG
-OUT 12
+CAR -CAR BIAS
8 10 5

NJM2043D-D (JRC)

OPERATIONAL AMPLIFIER

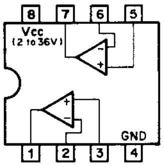
— TOP VIEW —


1
2
3
4 VEE (-15V)
Vcc (+15V) 8
7
6
5

NJM2903D (JRC)
NJM2903M (JRC) FLAT PACKAGE

VOLTAGE COMPARATOR

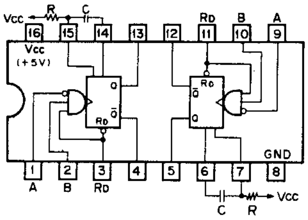
— TOP VIEW —


8 7 6 5
Vcc (2 to 36V)
GND
1 2 3 4

SN74LS123N (TI)

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

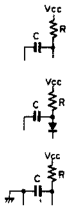
— TOP VIEW —


Vcc
R
C
RD B A
16 15 14 13 12 11 10 9
Vcc (+5V)
Q
RD
GND
1 2 3 4 5 6 7 8
A B RD
C R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	$\bar{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH



'123 ; $T_W = 0.28 \left(1 + \frac{700}{R}\right) CR$

'L123; $T_W = 0.33 \left(1 + \frac{700}{R}\right) CR$

'123 ; $T_W = 0.25 \left(1 + \frac{700}{R}\right) CR$

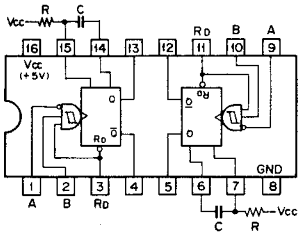
'L123; $T_W = 0.29 \left(1 + \frac{700}{R}\right) CR$

'LS123; $T_W = 0.45 CR$

SN74LS221N (TI)

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

— TOP VIEW —


Vcc
R
C
RD B A
16 15 14 13 12 11 10 9
Vcc (+5V)
Q
RD
GND
1 2 3 4 5 6 7 8
A B RD
C R
Vcc

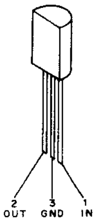
INPUTS			OUTPUTS	
RD	A	B	Q	$\bar{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

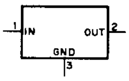
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

TA78L ? ? ?AP (TOSHIBA)

POSITIVE VOLTAGE REGULATOR (150mA)


2
OUT
3
GND
1
IN

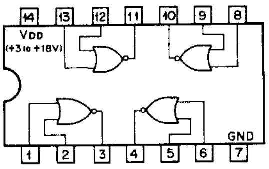

1
IN
OUT
2
GND
3

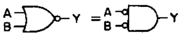
OUTPUT VOLTAGE	???
+5V	005
+6V	006
+7V	007
+7.5V	075
+8V	008
+9V	009
+10V	010
+12V	012
+13.2V	132
+15V	015
+18V	018
+20V	020
+24V	024

TC4001BP (TOSHIBA)

C-MOS 2-INPUT NOR GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+3 to +18V)
GND
1
2
3
4
5
6
7



$Y = \overline{A+B} = \bar{A}\cdot\bar{B}$

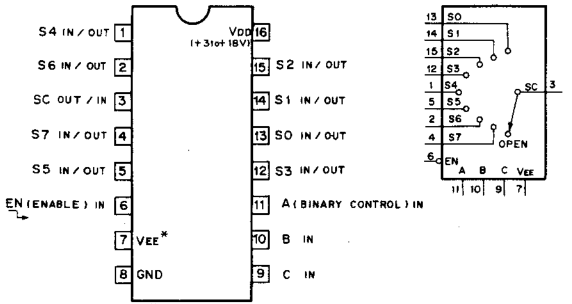
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4051BP (TOSHIBA)

C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER

— TOP VIEW —


S4 IN / OUT 1
S6 IN / OUT 2
SC OUT / IN 3
S7 IN / OUT 4
S5 IN / OUT 5
EN (ENABLE) IN 6
7 VEE*
8 GND
VDD 16
(+3 to +18V)
15 S2 IN / OUT
14 S1 IN / OUT
13 S0 IN / OUT
12 S3 IN / OUT
11 A (BINARY CONTROL) IN
10 B IN
9 C IN
13 S0
14 S1
15 S2
12 S3
1 S4
5 S5
2 S6
4 S7
SC 3
OPEN
6 EN
A B C VEE
11 10 9 7

VEE*; VDD − VEE: +3 to +18V

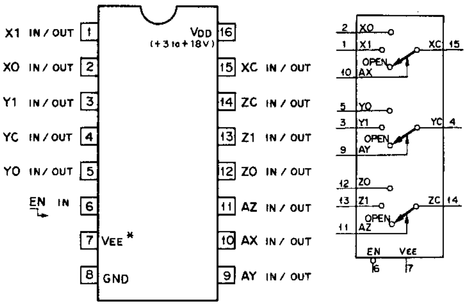
EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4053BF (TOSHIBA) FLAT PACKAGE
TC4053BP (TOSHIBA)

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER

— TOP VIEW —


X1 IN / OUT 1
XO IN / OUT 2
Y1 IN / OUT 3
YC IN / OUT 4
YO IN / OUT 5
EN IN 6
7 VEE*
8 GND
VDD 16
(+3 to +18V)
15 XC IN / OUT
14 ZC IN / OUT
13 Z1 IN / OUT
12 ZO IN / OUT
11 AZ IN / OUT
10 AX IN / OUT
9 AY IN / OUT
2 XO
1 X1
OPEN
10 AX
XC 15
5 YO
3 Y1
OPEN
9 AY
YC 4
12 ZO
13 Z1
OPEN
11 AZ
ZC 14
EN
VEE
6
7

VEE*; VDD − VEE: +3 to +18V

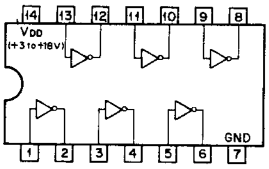
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

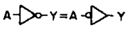
CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

TC4069UBP (TOSHIBA)

C-MOS INVERTER

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+3 to +18V)
GND
1
2
3
4
5
6
7



$Y = \bar{A}$

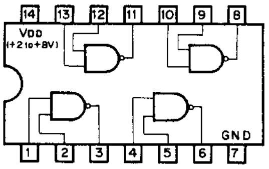
A	Y
0	1
1	0

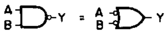
0; LOW LEVEL
1; HIGH LEVEL

TC40H000P (TOSHIBA)

C-MOS 2-INPUT NAND GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+2 to +8V)
GND
1
2
3
4
5
6
7



$Y = \overline{A\cdot B} = \bar{A} + \bar{B}$

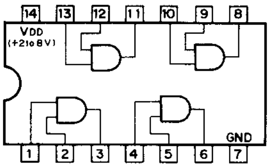
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

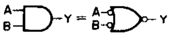
0; LOW LEVEL
1; HIGH LEVEL

TC40H008F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-AND GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+2 to 8V)
GND
1
2
3
4
5
6
7



$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

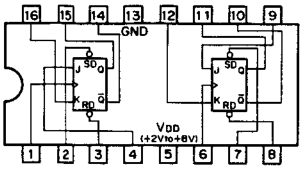
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

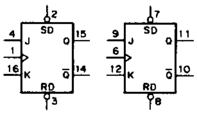
0; LOW LEVEL
1; HIGH LEVEL

TC40H076AP (TOSHIBA)

C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET

— TOP VIEW —


16
15
14
13
12
11
10
9
GND
SD
J
K
RD
Q
$\overline{Q}$
VDD
(+2V to +8V)
1
2
3
4
5
6
7
8


2
4
1
16
SD
J
K
RD
Q
$\overline{Q}$
15
14
3
7
9
6
12
11
10
8

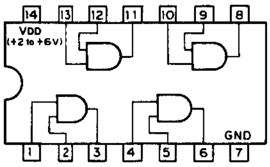
INPUTS					OUTPUTS	
RD	SD	CK	J	K	Q	$\overline{Q}$
1	0	X	X	X	1	0
0	1	X	X	X	0	1
0	0	X	X	X	1	1
1	1	⌐_	0	0	NO CHANGE	
1	1	⌐_	1	0	1	0
1	1	⌐_	0	1	0	1
1	1	⌐_	1	1	TOGGLE	
1	1	_⌐	X	X	NO CHANGE	

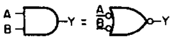
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC74HC08F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

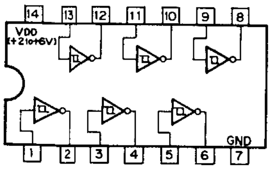
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

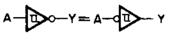
0; LOW LEVEL
1; HIGH LEVEL

TC74HC14F (TOSHIBA) FLAT PACKAGE

C-MOS SCHMITT TRIGGER INVERTER

— TOP VIEW —

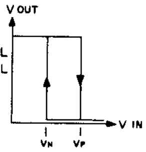

14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



$Y = \overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

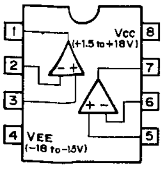


VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

TL062CP (TI)
TL062CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)

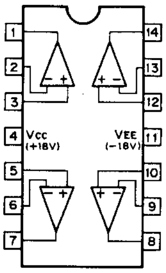
— TOP VIEW —


1
2
3
4
Vcc
(+1.5 to +18V)
VEE
(−18 to −15V)
8
7
6
5

TL064CN (TI)

OPERATIONAL AMPLIFIER
(J FET-INPUT)

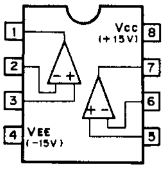
— TOP VIEW —


1
2
3
4
5
6
7
Vcc
(+18V)
VEE
(−18V)
14
13
12
11
10
9
8

TL082CP (TI)

OPERATIONAL AMPLIFIER
(J FET-INPUT)

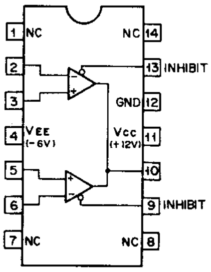
— TOP VIEW —


1
2
3
4
Vcc
(+15V)
VEE
(−15V)
8
7
6
5

uA711CN (TI)

VOLTAGE COMPARATOR

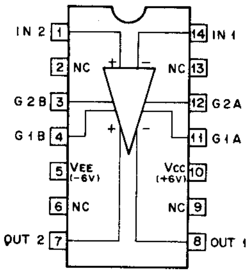
— TOP VIEW —


1 NC
2
3
4 VEE (−6V)
5
6
7 NC
NC 14
13 INHIBIT
GND 12
Vcc (+12V) 11
10
9 INHIBIT
NC 8

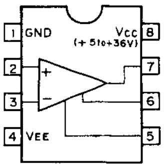
uA733CN (TI)

DIFFERENTIAL VIDEO AMP

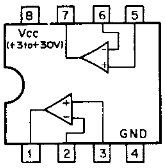
— TOP VIEW —


IN 2 1
2 NC
G 2 B 3
G 1 B 4
5 VEE (−6V)
6 NC
OUT 2 7
14 IN 1
NC 13
12 G 2 A
11 G 1 A
Vcc (+6V) 10
NC 9
8 OUT 1

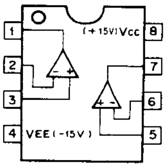
uPC311C (NEC)
VOLTAGE COMPARATOR
— TOP VIEW —


1
GND
Vcc
(+5to+36V)
8
2
+
7
3
−
6
4
VEE
5

uPC358C (NEC)
DUAL OPERATIONAL AMPLIFIERS
— TOP VIEW —


8
7
6
5
Vcc
(+3to+30V)
GND
1
2
3
4

uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1
(+15V)Vcc
8
2
7
3
6
4
VEE(−15V)
5

SECTION 6
SPARE PARTS

6-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**"

   - This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
   - Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

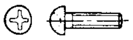
4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF. HO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	**IC**	IC	**RP**	RESISTOR BLOCK
CN	CONNECTOR	**J**	JACK	**RV**	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	**L**	INDUCTOR	**S**	SWITCH
D	DIODE	**LV**	VARIABLE INDUCTOR	**T**	TRANSFORMER
DL	DELAY LINE	**Q**	TRANSISTOR	**TH**	THERMISTOR
FL	FILTER	**R**	RESISTOR	**X**	OSCILLATOR

SCREW

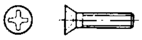
PRECISION +P
Cr-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	–
x 1.8	–
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	–
x 3	552-37
x 3.5	–
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	–
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	–
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	–
x 3.5	–
x 4	556-37
x 4.5	–
x 5	–
x 5.5	–
x 6	556-77
x 7	–
x 8	556-97
x 9	–
x 10	557-47

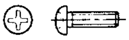
PRECISION +K
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.8	–
x 2	450-28
x 2.2	–
x 2.5	450-48
x 2.8	–
x 3	450-58
x 3.5	–
x 4	450-78
x 4.5	–
x 5	450-98
x 5.5	–
x 6	–
2 x 2	452-08
x 2.2	452-88
x 2.5	452-48
x 2.8	–
x 3	452-18
x 3.5	452-98
x 4	452-28
x 4.5	–
x 5	452-38
x 5.5	–
x 6	452-58
x 7	452-68
x 8	452-78
2.6 x 3.5	–
x 4	–
x 4.5	454-28
x 5	454-38
x 5.5	–
x 6	–
x 7	–
x 8	–

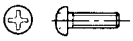
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09

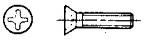
+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04

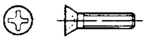
+K
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09

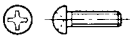
+K
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

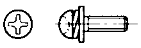
+P
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-10
x 4	255-20
x 5	283-00
x 6	255-40
x 8	255-50
x 10	283-10
x 12	283-70
x 14	–
x 16	–
x 20	256-20
2.3 x 5	–
x 6	–
x 8	–
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–
2.6 x 3	259-10
x 4	284-00
x 5	284-10
x 6	284-20
x 8	284-30
x 10	284-40
x 12	259-70
x 14	259-80
x 16	260-00
x 20	260-20

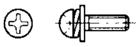
+PSW
Czn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

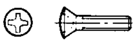
+PSW
Czn-N



7-621-□□□-□□

SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

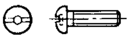
+RK
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	–
x 4	–
x 5	–
x 6	–
x 8	–
x 10	–
x 12	661-30
x 14	661-40
2.6 x 4	–
x 5	662-10
x 6	662-20
x 8	662-30
x 10	–
x 12	–
x 14	–
x 16	–
x 20	–

TOTSU B
Bzn-N

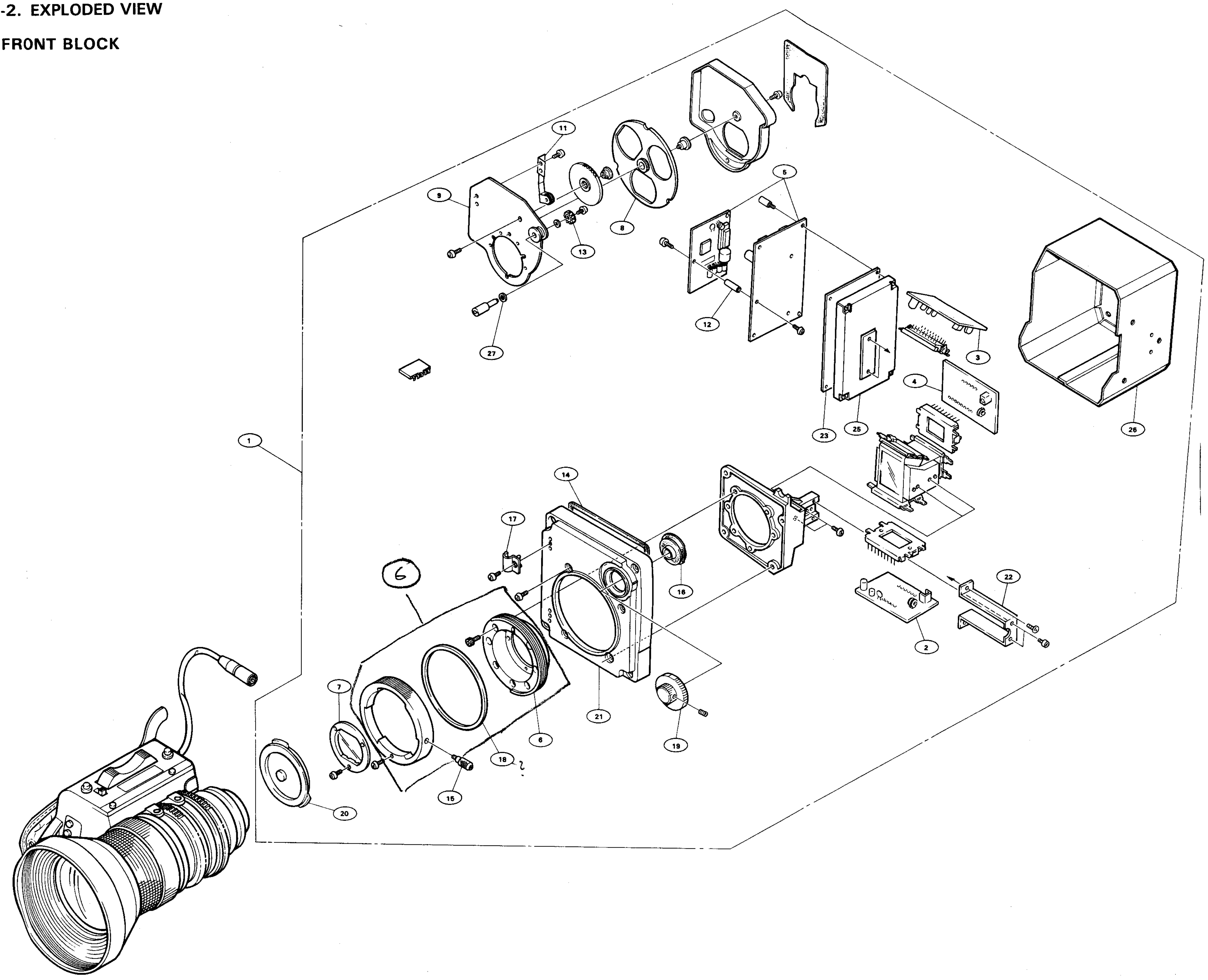


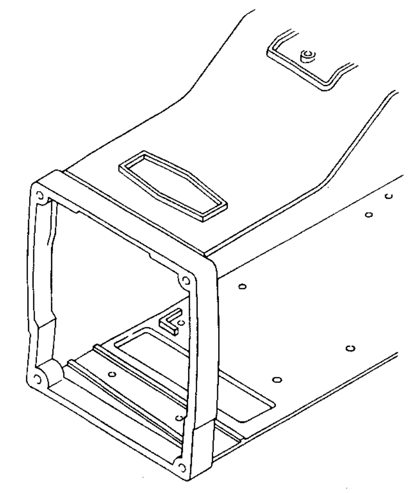
7-621-□□□-□□

SIZE	Parts No.
2 x 3	911-00
x 4	911-10
x 6	911-30
x 8	911-40
2.6 x 3	912-00
x 4	912-10
x 5	912-20
x 6	912-30
x 8	912-40
x 10	912-50
x 12	912-60
x 14	912-70
x 16	912-80
x 20	912-90

6-2. EXPLODED VIEW

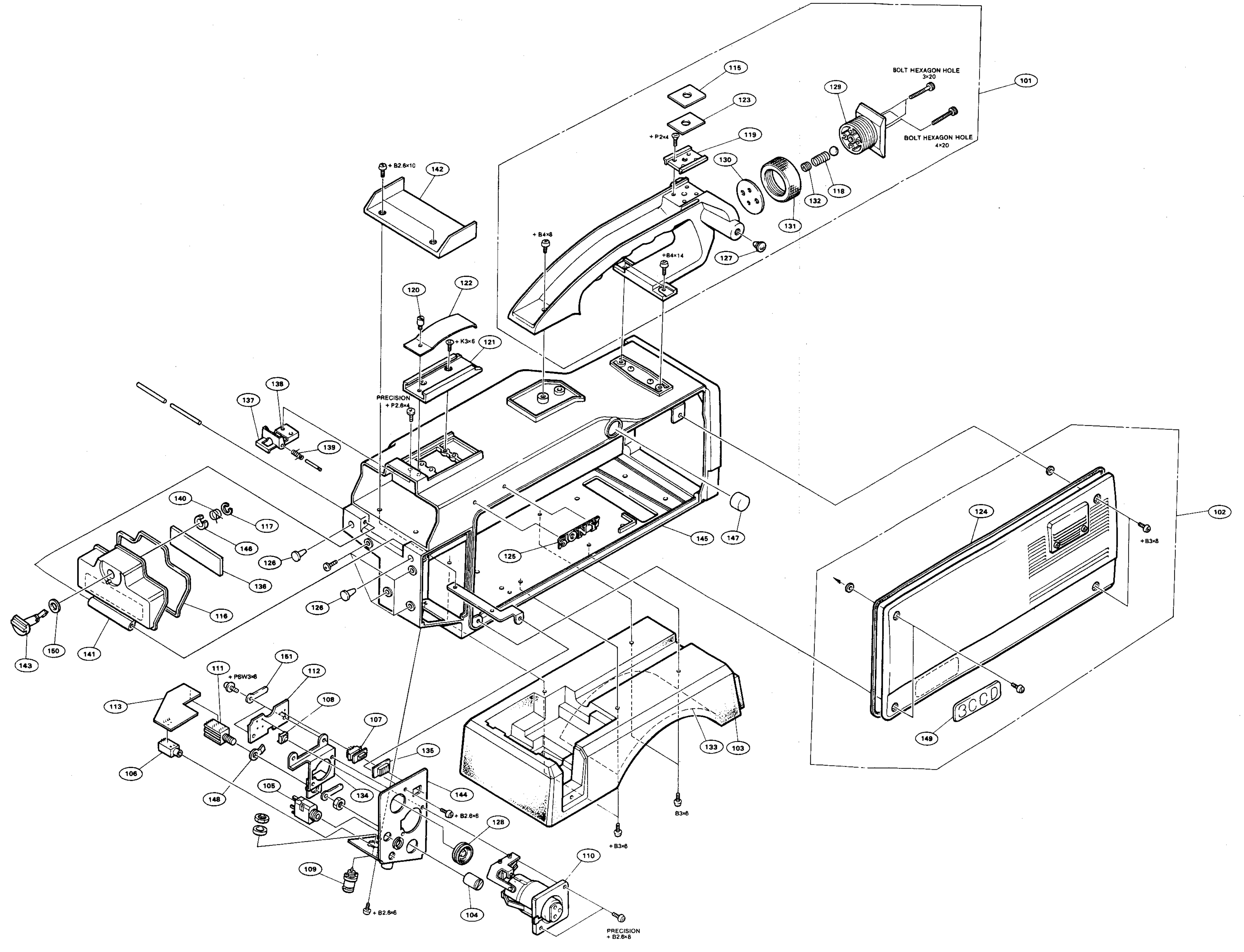
FRONT BLOCK





No.	Part No.	Description
1	**A-7575-089-A** **A-7575-090-A**	**FRONT UNIT ASSY(N)** **FRONT UNIT ASSY(P)**
2	A-7513-337-A	MOUNTED CIRCUIT BOARD "PA-40"(R)
3	A-7513-338-A	MOUNTED CIRCUIT BOARD "PA-40"(B)
4	A-7513-339-A	MOUNTED CIRCUIT BOARD "PA-41"
5	A-7513-335-A A-7513-336-A	MOUNTED CIRCUIT BOARD "TG-18N" MOUNTED CIRCUIT BOARD "TG-18P"
6	A-7550-031-A	MOUNT LENS
7	**1-547-198-11**	**UNIT, FILTER OPTICS**
8	**1-547-196-11**	**DISK, FILTER**
9	X-3699-001-1	PLATE ASSY, FILTER
11	X-3699-003-3	SPRING ASSY, LEAF
12	3-699-005-01	SUPPORT, TG-18
13	3-672-208-00	GEAR, IDLER
14	3-672-253-11	RUBBER, CONDUCTIVE
15	**3-678-629-00**	**LEVER, MOUNT**
16	3-678-632-00	PACKING, KNOB
17	3-678-684-00	HOLDER, CABLE
18	3-699-027-01	RING, DUST PROTECTION
19	**3-699-047-01**	**KNOB, FILTER**
20	**3-699-048-01**	**CAP, MOUNT (SUPPLIED)**
21	3-699-050-01	PANEL, FRONT
22	3-699-072-01	BRACKET, TG
23	3-699-073-02	SHEET, INSULATING A
25	3-699-076-01	CASE, SHIELD A TG-18
26	X-3699-009-1	COVER ASSY, SHIELD, BLOCK
27	**3-701-441-21**	**WASHER**

CHASSIS BLOCK 1


101
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122
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124
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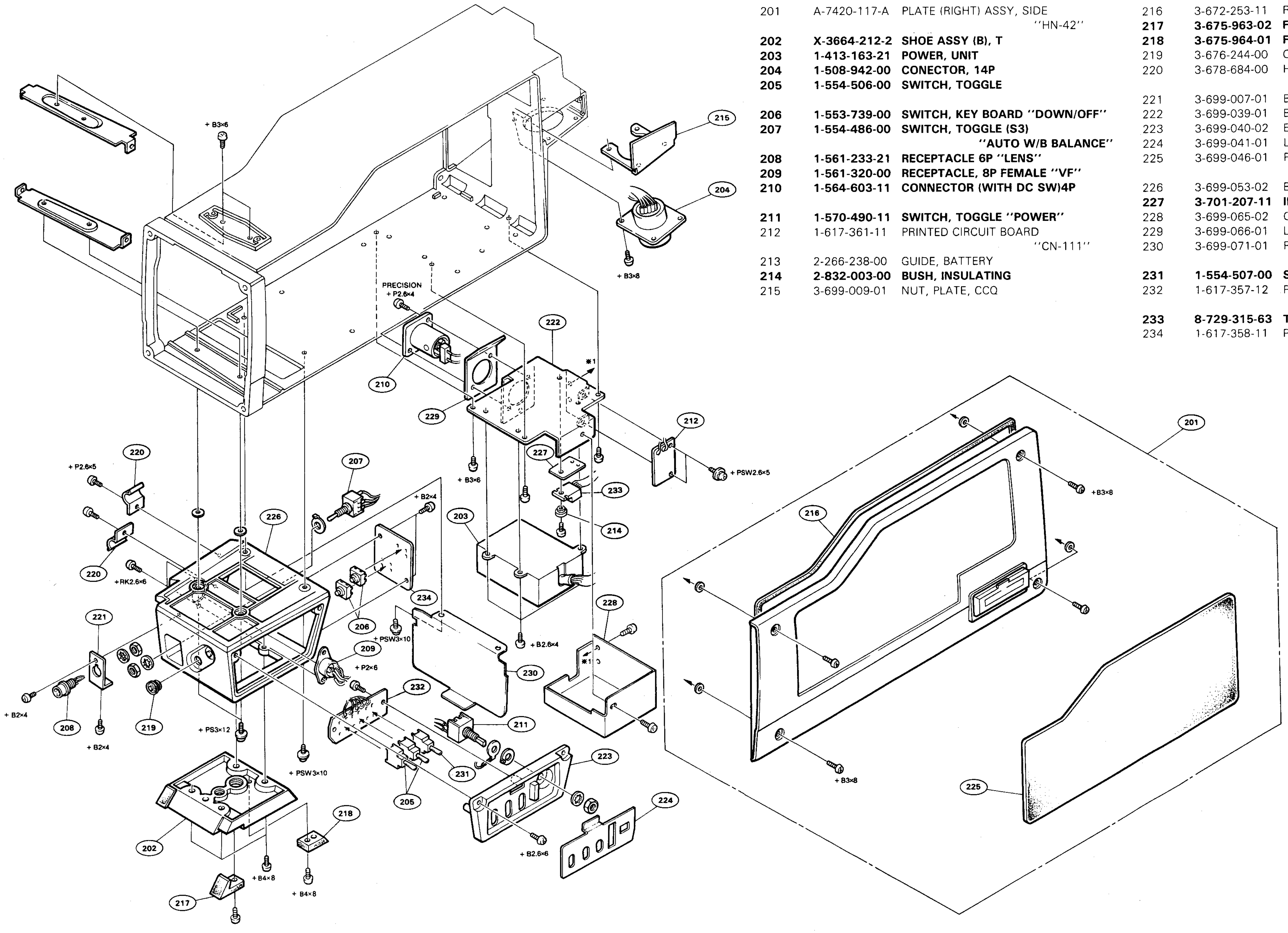
141
142
143
144
145
146
147
148
149
150
151
BOLT HEXAGON HOLE 3×20
BOLT HEXAGON HOLE 4×20
+P2×4
+B2.6×10
+B4×8
+B4×14
+K3×6
PRECISION +P2.6×4
+B3×8
+PSW3×6
+B2.6×6
B3×8
+B3×6
PRECISION +B2.6×8
SONY
3CCD

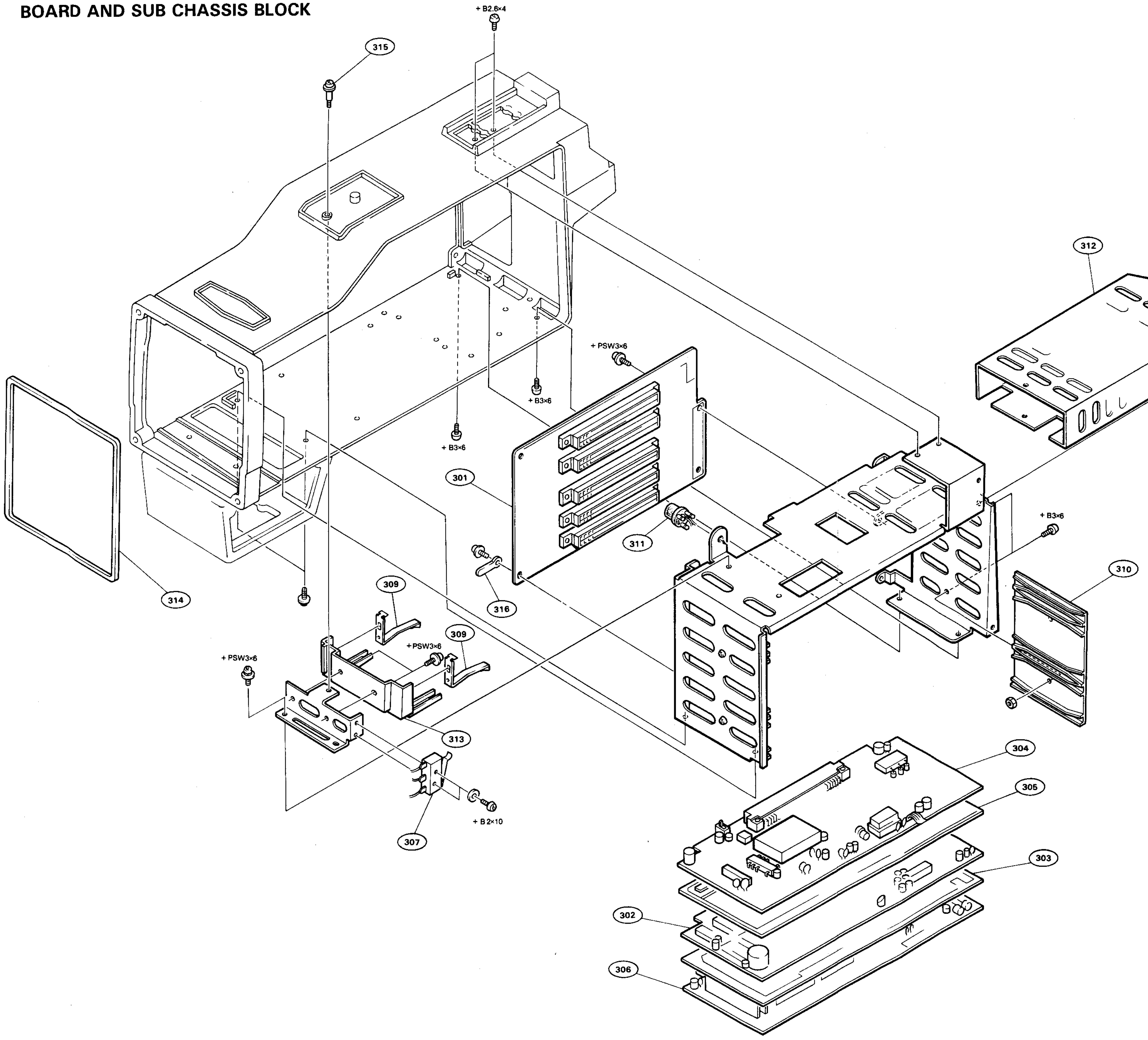
No.	Part No.	Description
101	A-7420-113-A	HANDLE ASSY
102	A-7420-118-A	PLATE (LEFT) ASSY, SIDE
103	**X-3699-004-1**	**PAD ASSY**
104	**X-3664-208-1**	**KNOB ASSY, FADE**
105	**1-507-682-00**	**JACK "EAR"**
106	**1-507-883-00**	**JACK, SMALL TYPE 4P (J1)**
107	**1-544-165-00**	**SWITCH, SLIDE (S1)**
108	**1-553-739-00**	**SWITCH KEY BOARD (S2)**
109	**1-561-781-41**	**BNC, RECEPTACLE "VIDEO OUT" "GENLOCK IN"**
110	**1-563-096-11**	**CONNECTOR(WITH SW)(F) 3P "MIC IN"(FOR UC, EK)**
	1-506-596-11	**CONNECTOR(WITH SW)(F) 3P "MIC IN"(FOR J)**
111	**1-570-491-11**	**SWITCH, ROTARY (S1)**
112	1-617-359-11	PRINTED CIRCUIT BOARD "SWB-13"
113	1-617-360-11	PRINTED CIRCUIT BOARD "CN-36"
114	**2-229-507-00**	**WASHER**
115	2-277-468-01	PLATE, ORNAMENTAL, CAMERA SHOE
116	**3-472-189-01**	**BELT, TAPE COUNTER**
117	**3-618-078-00**	**RING, RETAINING, CE TYPE**
118	**3-641-622-00**	**SPRING, COMPRESSION**
119	**3-657-700-00**	**BRACKET, ACCESSORY**
120	3-664-213-00	SCREW, STOPPER
121	3-664-218-00	SHOE
122	3-664-228-00	PLATE, SPRING
123	3-672-213-00	SHEET, ADHESIVE
124	**3-672-253-11**	**RUBBER, CONDUCTIVE**
125	3-672-268-01	EMBLEM, SONY
126	3-676-081-01	CUSHION, TC
127	**3-676-379-00**	**BUSHING(M5), SCREW**
128	3-682-716-00	COVER, PUSH SWITCH
129	3-682-718-02	SHOE, VF SLIDE
130	3-682-758-01	SPACER
131	3-682-759-01	RING, LOCK
132	3-682-760-01	SCREW(M7-0.750), ADJUSTMENT
133	3-699-011-01	SHEET, STOPPER
134	3-699-015-02	NUT, CN PLATE
135	3-699-017-01	CAP, SLIDE
136	**3-699-028-01**	**CUSHION, BATT**
137	3-699-029-02	LINK, LOCK
138	3-699-030-01	HOLDER, LOCK
139	3-699-031-01	SPRING(A)
140	3-699-033-01	SPRING(B)
141	**3-699-044-01**	**LID, BATTERY**
142	3-699-045-01	SPACER, BATT
143	**3-699-049-01**	**KNOB, BATT**
144	3-699-051-01	PLATE, CN
145	3-699-054-01	CABINET
146	3-699-061-01	SPECER(C)
147	3-699-062-01	COVER, MICROPHOE
148	3-699-063-01	PLATE, GROUND, ROTARY SW
149	3-699-070-01	ENBLEM, 3CCD
150	**3-701-444-21**	**WASHER, 6**
151	**3-701-822-00**	**HOLDER, WIRE**

CHASSIS BLOCK 2


+B3×6
PRECISION
+P2.6×4
215
204
+B3×8
222
✱1
210
229
212
+PSW2.6×5
201
220
+P2.6×5
207
+B2×4
226
203
+B3×6
227
233
214
+B3×8
216
220
+RK2.6×6
221
234
206
+PSW3×10
228
209
+P2×6
+B2.6×4
✱1
230
232
211
+B2×4
208
219
+B2×4
+PS3×12
231
223
+PSW3×10
205
224
218
202
+B2.6×6
+B3×8
225
+B4×8
217
+B4×8

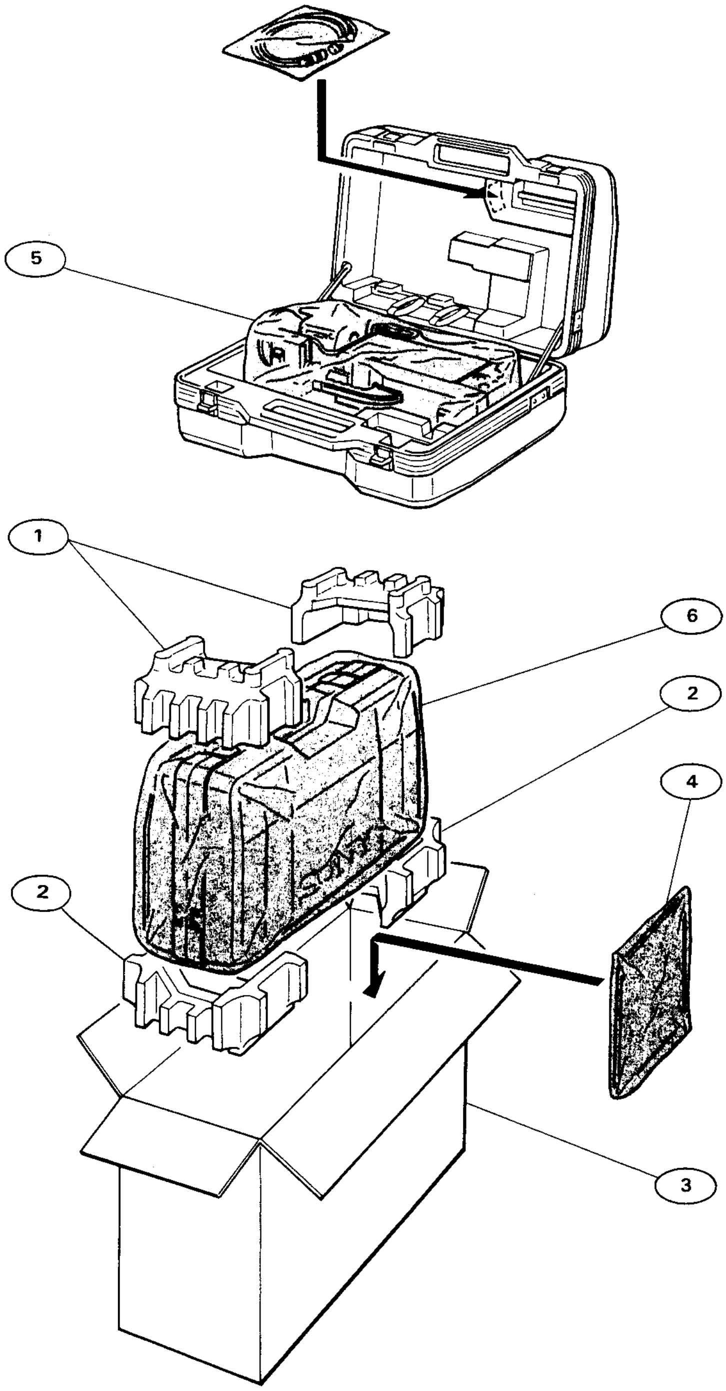
No.	Part No.	Description
201	A-7420-117-A	PLATE (RIGHT) ASSY, SIDE ''HN-42''
202	**X-3664-212-2**	**SHOE ASSY (B), T**
203	**1-413-163-21**	**POWER, UNIT**
204	**1-508-942-00**	**CONECTOR, 14P**
205	**1-554-506-00**	**SWITCH, TOGGLE**
206	**1-553-739-00**	**SWITCH, KEY BOARD ''DOWN/OFF''**
207	**1-554-486-00**	**SWITCH, TOGGLE (S3) ''AUTO W/B BALANCE''**
208	**1-561-233-21**	**RECEPTACLE 6P ''LENS''**
209	**1-561-320-00**	**RECEPTACLE, 8P FEMALE ''VF''**
210	**1-564-603-11**	**CONNECTOR (WITH DC SW)4P**
211	**1-570-490-11**	**SWITCH, TOGGLE ''POWER''**
212	1-617-361-11	PRINTED CIRCUIT BOARD ''CN-111''
213	2-266-238-00	GUIDE, BATTERY
214	**2-832-003-00**	**BUSH, INSULATING**
215	3-699-009-01	NUT, PLATE, CCQ
216	3-672-253-11	RUBBER, CONDUCTIVE
217	**3-675-963-02**	**FOOT, FRONT, RUBBER**
218	**3-675-964-01**	**FOOT,REAR, RUBBER**
219	3-676-244-00	COVER, SWITCH
220	3-678-684-00	HOLDER, CABLE
221	3-699-007-01	BRACKET, LENS CN
222	3-699-039-01	BRACKET, DC IN
223	3-699-040-02	ESCUTCHON, CONTROL
224	3-699-041-01	LABEL, CONTROL BLOCK
225	3-699-046-01	PAD, SIDE
226	3-699-053-02	BOX, CONTROL
227	**3-701-207-11**	**INSULATOR, TO-220**
228	3-699-065-02	CASE, SHIELD, PW
229	3-699-066-01	LABEL, DC IN
230	3-699-071-01	PLATE, SHIELD, FR
231	**1-554-507-00**	**SWITCH, TOGGLE**
232	1-617-357-12	PRINTED CIRCUIT BOARD ''SW-29''
233	**8-729-315-63**	**TRANSISTOR 2SB856(Q101)**
234	1-617-358-11	PRINTED CIRCUIT BOARD ''SW-30''

BOARD AND SUB CHASSIS BLOCK


+B2.6×4
315
312
308
+B3×4
+PSW3×6
+B3×6
+B3×6
301
311
+B3×6
310
314
309
316
309
+PSW3×6
+PSW3×6
313
304
305
303
302
306
307
+B2×10

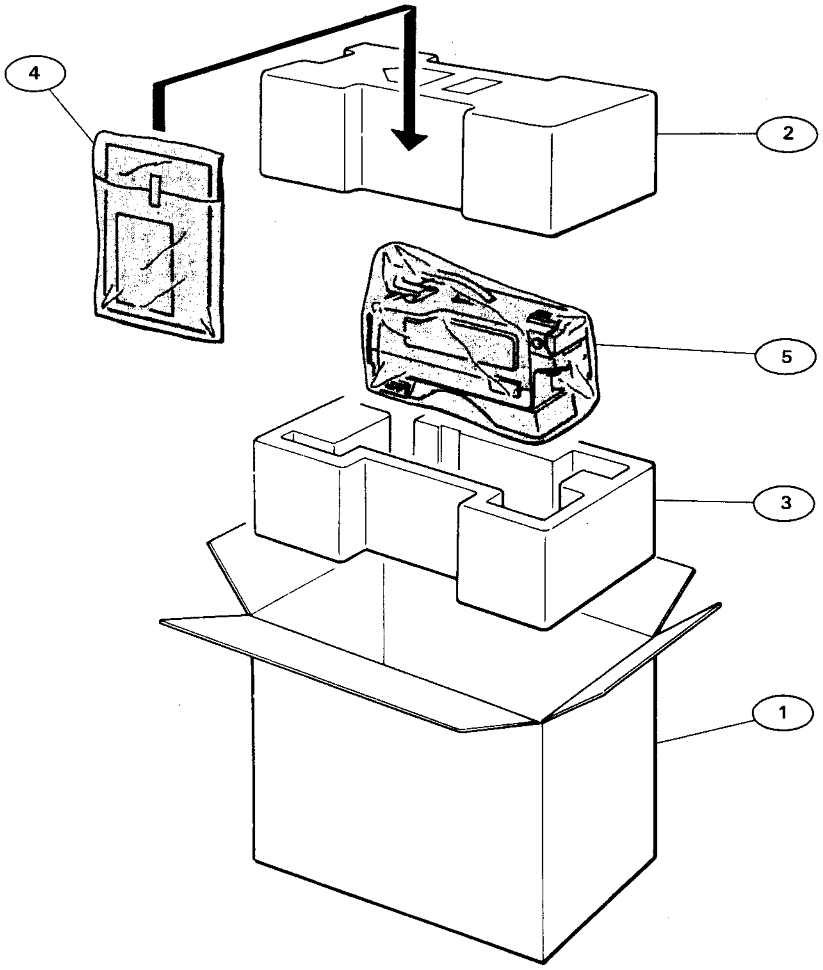
No.	Part No.	Description
301	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"
302	A-7513-340-A	MOUNTED CIRCUIT BOARD "AT-39"
303	A-7513-341-A	MOUNTED CIRCUIT BOARD "EN-39N"
	A-7513-342-A	MOUNTED CIRCUIT BOARD "EN-39P"
304	A-7513-343-A	MOUNTED CIRCUIT BOARD "IE-14N"
	A-7513-344-A	MOUNTED CIRCUIT BOARD "IE-14P"
305	A-7513-345-A	MOUNTED CIRCUIT BOARD "PR-71N"
	A-7513-346-A	MOUNTED CIRCUIT BOARD "PR-71P"
306	A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37N"
	A-7513-348-A	MOUNTED CIRCUIT BOARD "SG-37P"
307	**1-552-665-00**	**SWITCH, MICRO (S102)**
308	2-266-238-00	GUIDE, BATTERY
309	**3-676-314-00**	**CONTACT**
310	3-699-012-01	GUIDE, PCB
311	**3-699-016-01**	**HOLDER, MICROPHNE**
312	3-699-042-01	CASE, BATTERY
313	3-699-043-02	HOLDER, CONTACT
314	3-699-035-01	RUBBER, COLOR
315	**3-699-064-02**	**SCREW(M3x10), STEP**
316	**3-701-822-00**	**HOLDER,WIRE**

6-3. PACKING MATERIAL AND ACCESSORIES



No.	Part No.	Description
1	3-682-752-01	CUSHION, UPPER
2	3-682-753-01	CUSHION, LOWER
3	3-699-078-01	CARTON, INDIVIDUAL (UC,J)
	3-699-079-01	CARTON, INDIVIDUAL (EK)
4	**3-701-630-01**	**BAG, POLY (FOR MANUAL, WARRANTY CARD, REGISTRATION, AND QUESTIONNAIRE) (UC) (FOR MANUAL AND WARRANTY CARD) (J) (FOR MANUAL) (EK)**
	3-760-927-13	**MANUAL, INSTRUCTION (ENGLISH) (UC)**
	3-760-927-32	**MANUAL, INSTRUCTION (FRENCH) (EK)**
	3-760-927-42	**MANUAL, INSTRUCTION (GERMAN) (EK)**
5	**3-701-641-00**	**BAG, POLY (FOR DXC-3000/3000P/3000K/ 3000PK)**
6	**3-701-647-00**	**BAG, POLY (FOR CARRYING CASE)**

PACKING

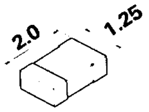


DXC-3000H/3000PH

Ref. No.	Part No.	Description
1	3-699-080-01	CARTON, INDIVIDUAL (UC,J)
	3-699-081-01	CARTON, INDIVIDUAL (EK)
2	3-699-083-01	CUSHION, UPPER
3	3-699-082-01	CUSHION, LOWER
4	**3-701-630-01**	**BAG POLY** **(FOR NANUAL, WARRANTY CARD, REGISTATION, AND QUESTIONNAIRE) (UC)** **(FOR MANUAL AND WARRANTY DARD) (J)** **(FOR MANUAL) (EK)**
5	**3-701-637-00**	**BAG POLY (FOR DXC-3000H/ 3000PH)**

Parts that are not listed in the "reference numbers order list " are shown in following table. Reference numbers are omitted.

CHIP CERAMIC CAPACITOR



220pF through 0.018μF(B) ± 10% 50WV

0.022μF through 0.068μF(F) $^{+80}_{-20}$ % 50WV

0.1μF(F) $^{+80}_{-20}$ % 25WV

Parts No. 1-163-□□□-00

Value	Parts No. – □□□ –
100pF	—
120	—
150	—
180	—
220	001
270	002
330	003
390	004
470	005
560	006
680	007
820	008

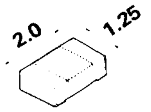
Value	Parts No. – □□□ –
0.001μF	009
0.0012	010
0.0015	011
0.0018	012
0.0022	013
0.0027	014
0.0033	015
0.0039	016
0.0047	017
0.0056	018
0.0068	019
0.0082	020

Value	Parts No. – □□□ –
0.01μF	021
0.012	022
0.015	023
0.018	024
0.022	033
0.027	—
0.033	034
0.039	—
0.047	035
0.056	—
0.068	036
0.082	—
0.1	038

R. CHIP

Parts that are not listed in the "reference numbers order list" are shown in following table.
Reference numbers are omitted.

CHIP RESISTOR



±5% 1/10W
0Ω through 3.3MΩ

Parts No. 1-216-□□□-00

Value	Parts No. — □□□ —
0Ω	295
1Ω	—
1.1	—
1.2	—
1.3	—
1.5	—
1.6	—
1.8	—
2	—
2.2	298
2.4	301
2.7	302
3	303
3.3	304
3.6	305
3.9	306
4.3	307
4.7	308
5.1	297
5.6	309
6.2	310
6.8	311
7.5	312
8.2	313
9.1	314
10Ω	001
11	002
12	003
13	004
15	005
16	006
18	007
20	008
22	009
24	010
27	011

Value	Parts No. — □□□ —
30	012
33Ω	013
36	014
39	015
43	016
47	017
51	018
56	019
62	020
68	021
75	022
82	023
91	024
100Ω	025
110	026
120	027
130	028
150	029
160	030
180	031
200	032
220	033
240	034
270	035
300	036
330	037
360	038
390	039
430	040
470	041
510	042
560	043
620	044
680	045
750	046
820	047

Value	Parts No. — □□□ —
910	048
1kΩ	049
1.1	050
1.2	051
1.3	052
1.5	053
1.6	054
1.8	055
2	056
2.2	057
2.4	058
2.7	059
3	060
3.3	061
3.6	062
3.9	063
4.3	064
4.7	065
5.1	066
5.6	067
6.2	068
6.8	069
7.5	070
8.2	071
9.1	072
10kΩ	073
11	074
12	075
13	076
15	077
16	078
18	079
20	080
22	081
24	082
27	083

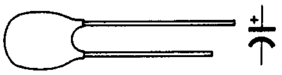
Value	Parts No. — □□□ —
30	084
33kΩ	085
36	086
39	087
43	088
47	089
51	090
56	091
62	092
68	093
75	094
82	095
91	096
100kΩ	097
110	098
120	099
130	100
150	101
160	102
180	103
200	104
220	105
240kΩ	106
270	107
300	108
330	109
360	110
390	111
430	112
470	113
510	114
560	115
620	116
680	117
750	118
820	119

Value	Parts No. — □□□ —
910	120
1MΩ	121
1.1	122
1.2	123
1.3	124
1.5	125
1.6	126
1.8	127
2	128
2.2	129
2.4	130
2.7	131
3	132
3.3	133

C. TANTALUM

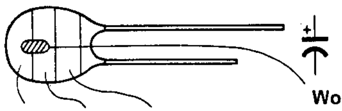
Parts that are not listed in the "reference numbers order list" are shown in following table.
Reference numbers are omitted.

TANTALUM CAPACITOR



0.01µF through 100µF ± 10%
3.15V through 35V

NOTE: The value of the parts that are marked by * in the below table are indicated by color code. (to the value with ±20%)



Working Voltage Color Code

Ex. BRN GRN BLU
1 5 6

15 x 10^6 pF = 15µF

BLK	RED	YEL	GRN	BLU	GRY	WHT
10V	35	6.3	16	20	25	3.15

Parts No. 1-131-□□□-00

Value		Parts No. —□□□—
0.01µ	35V	*396
0.015	35	*397
0.022	35	*398
0.033	35	*399
0.047	35	*400
0.068	35	*401
0.1	35	*402
0.15	35	*403
0.22	35	*404
0.33	25	*409
	35	*405
0.47	20	*412
	35	*406
0.68	16	*415
	25	*410
	35	*407
1.0	10	*418
	20	*413

Value		Parts No. —□□□—
1.0µ	35V	*408
1.5	6.3	*421
	16	*416
	25	*411
	35	348
2.2	3.15	*424
	10	*419
	20	*414
	25	355
	35	349
3.3	6.3	*422
	16	*417
	20	362
	25	356
	35	350
4.7	3.15	*425
	10	*420
	16	369

Value		Parts No. —□□□—
4.7µ	20V	363
	25	357
	35	351
6.8	6.3	*423
	10	376
	16	370
	20	364
	25	358
	35	352
10	3.15	*426
	6.3	383
	10	377
	16	371
	20	365
	25	359
	35	353
15	3.15	390
	6.3	384

Value		Parts No. —□□□—
15µ	10V	378
	16	372
	20	366
	25	360
22	3.15	391
	6.3	385
	10	379
	16	373
	20	367
33	3.15	392
	6.3	386
	10	380
	16	374
47	3.15	393
	6.3	387
	10	381
68	3.15	394
	6.3	388
100	3.15	395

AT-39 BOARD

Ref. No.	Part No.	Description
	A-7513-340-A	MOUNTED CIRCUIT BOARD "AT-39"
C9	1-163-251-00	CERAMIC CHIP 100PF 5% 50V
C17	1-124-280-00	ELECT 4.7 20% 25V
C19	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
C23	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C30	1-124-148-00	ELECT 100 20% 25V
C31	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C40	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
C59	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C62	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C63	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C66	1-125-299-00	DOUBLE LAYERS 47000 5.5V
C68	1-163-141-00	CERAMIC CHIP 0.001 5% 50V
C70	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C71	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C72	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
C73	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-03	1S2835
D4	8-719-100-03	1S2835
D5	8-719-100-05	1S2837
D6	8-719-101-23	1SS123
D7	8-719-100-03	1S2835
D8	8-719-100-05	1S2837
D9	8-719-100-05	1S2837
D10	8-719-100-05	1S2837
D11	8-719-100-05	1S2837
D12	8-719-100-03	1S2835
D13	8-719-105-00	RD6.2M-B1
D14	8-719-100-03	1S2835
D15	8-719-105-91	RD5.6M-B2
D16	8-719-108-13	1S955
D17	8-719-108-13	1S955
D18	8-719-101-23	1SS123
D19	8-719-100-05	1S2837
D20	8-719-100-05	1S2837

Ref. No.	Part No.	Description
D21	8-719-100-05	1S2837
D22	8-719-100-03	1S2835
D23	8-719-100-05	1S2837
D24	8-719-100-03	1S2835
D25	8-719-100-05	1S2837
D26	8-719-100-03	1S2835
D27	8-719-100-05	1S2837
IC1	8-759-240-53	TC4053BP: TOSHIBA
IC2	8-759-131-11	μPC311C: NEC
IC3	8-759-729-03	NJM2903D: JRC
IC4	8-759-900-64	TL064CN: TI
IC5	8-759-240-53	TC4053BP: TOSHIBA
IC6	8-759-990-82	TL082CP: TI
IC7	8-759-900-64	TL064CN: TI
IC8	8-759-240-69	TC4069UBP: TOSHIBA
IC9	8-759-303-31	HD44860B42: HITACHI
IC10	8-759-240-51	TC4051BP: TOSHIBA
IC11	8-759-240-51	TC4051BP: TOSHIBA
IC12	8-759-900-64	TL064CN: TI
IC13	8-759-900-64	TL064CN: TI
IC14	8-759-900-64	TL064CN: TI
IC15	8-759-240-53	TC4053BP: TOSHIBA
IC16	8-759-400-89	MN1237AD: MATSUSHITA
IC17	8-759-240-01	TC4001BP: TOSHIBA
IC18	8-759-240-69	TC40690UBP: TOSHIBA
L1	1-408-429-00	MICRO 470
L2	1-408-429-00	MICRO 470
L3	1-408-421-00	MICRO 100
Q1	8-729-100-76	2SA812
Q2	8-729-100-76	2SA812
Q3	8-729-100-76	2SA812
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-66	2SC1623
Q10	8-729-100-76	2SA812
Q11	8-729-100-66	2SC1623
Q12	8-729-109-44	2SK94
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623

Ref. No.	Part No.	Description
Q16	**8-729-175-73**	**2SC2757**
Q17	**8-729-175-73**	**2SC2757**
Q18	**8-729-100-76**	**2SA812**
Q19	**8-729-100-66**	**2SC1623**
Q20	**8-729-100-66**	**2SC1623**
Q21	**8-729-100-66**	**2SC1623**
Q22	**8-729-100-76**	**2SA812**
Q23	**8-729-100-66**	**2SC1623**
Q24	**8-729-109-44**	**2SK94**
Q25	**8-729-102-03**	**2SD1020**
Q26	**8-729-181-13**	**2SB811**
Q27	**8-729-100-66**	**2SC1623**
Q28	**8-729-100-76**	**2SA812**
Q29	**8-729-100-76**	**2SA812**
Q30	**8-729-100-76**	**2SA812**
Q31	**8-729-100-66**	**2SC1623**
Q32	**8-729-100-66**	**2SC1623**
Q33	**8-729-100-66**	**2SC1623**
Q34	**8-729-100-66**	**2SC1623**
Q35	**8-729-100-66**	**2SC1623**
Q36	**8-729-100-66**	**2SC1623**
Q37	**8-729-100-76**	**2SA812**
R86	**1-247-694-11**	**CARBON 33 5% 1/4W**
R87	**1-247-694-11**	**CARBON 33 5% 1/4W**
RP1	**1-231-387-00**	**25K**
RV1	**1-230-521-11**	**METAL 2.2K**
RV2	**1-226-773-00**	**METAL 22K**
RV3	**1-230-521-11**	**METAL 2.2K**
RV4	**1-226-776-00**	**METAL 220K**
S1	**1-553-510-00**	**SLIDE**
X1	**1-527-730-00**	**400KHz**

CN-36 BOARD

Ref. No.	Part No.	Description
	1-617-360-11	PRINTED CIRCUIT BOARD "CN-36"
J1	**1-507-883-00**	**SMALL TYPE 4P**
S1	**1-570-491-11**	**ROTARY**

EN-39/39P BOARD

Ref. No.	Part No.	Description
	A-7513-341-A	MOUNTED CIRCUIT BOARD "EN-39" (UC)
	A-7513-342-A	MOUNTED CIRCUIT BOARD "EN-39P" (EK)
C3	**1-107-048-00**	**MICA 6.8PF ±0.5PF 500V**
C5	**1-107-026-00**	**MICA 5.1PF ±0.5PF 500V**
C8	**1-107-044-00**	**MICA 3.3PF ±0.5PF 500V**
C9	**1-107-046-00**	**MICA 4.7PF ±0.5PF 500V**
C11	**1-124-139-00**	**ELECT 100 20% 10V**
C16	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C18	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C19	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C22	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C26	**1-107-048-00**	**MICA 6.8PF ±0.5PF 500V**
C30	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C31	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C32	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C36	**1-163-117-00**	**CERAMIC CHIP 100PF 5% 50V**
C38	**1-107-085-00**	**MICA 100PF 5% 50V (UC)**
C38	**1-107-082-00**	**MICA 75PF 5% 50V (EK)**
C39	**1-107-085-00**	**MICA 100PF 5% 50V (UC)**
C39	**1-107-082-00**	**MICA 75PF 5% 50V (EK)**
C44	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C46	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**

EN-39/EN-39P

Ref. No.	Part No.	Description
C47	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
C48	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C49	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C51	1-124-139-00	ELECT 100 20% 10V
C53	1-124-140-00	ELECT 220 20% 6.3V
C54	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C59	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C71	1-163-267-00	CERAMIC CHIP 470PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-05	1S2837
D6	8-719-100-03	1S2835
D7	8-719-100-05	1S2837
D9	8-719-168-07	RD6.8EB
D10	8-719-100-05	1S2837
D11	8-719-100-03	1S2835
D12	8-719-127-07	RD2.7E
D13	8-719-101-23	1SS123
D14	8-719-923-48	1S2348H
DL1	1-415-306-00	340nS
FL1	1-235-161-00	BAND PASS 3.58MHz (UC)
FL1	1-235-181-00	BAND PASS 4.43MHz (EK)
IC1	8-759-907-77	μA711CN: TI
IC2	8-759-906-59	CX22017: SONY
IC3	8-759-200-20	TC40H076AP: TOSHIBA
IC4	8-759-240-69	TC4069UBP: TOSHIBA
IC5	8-759-729-03	NJM2903D: JRC
IC6	8-759-240-53	TC4053BP: TOSHIBA
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-240-53	TC4053BP: TOSHIBA
L1	1-408-409-00	MICRO 10
L2	1-408-409-00	MICRO 10
L3	1-408-413-00	MICRO 22
L4	1-408-413-00	MICRO 22
L5	1-408-427-00	MICRO 330

Ref. No.	Part No.	Description
L6	1-408-417-00	MICRO 47
L7	1-408-413-00	MICRO 22
L8	1-408-427-00	MICRO 330
L9	1-408-417-00	MICRO 47
L10	1-408-409-00	MICRO 10 (UC)
L10	1-408-417-00	MICRO 47 (EK)
L11	1-408-413-00	MICRO 22
L12	1-408-413-00	MICRO 22
L13	1-408-413-00	MICRO 22
L16	1-408-413-00	MICRO 22
L17	1-408-413-00	MICRO 22
LV1	1-408-844-00	22
Q1	8-729-100-76	2SA812
Q2	8-729-100-76	2SA812
Q3	8-729-100-66	2SC1623
Q4	8-729-100-76	2SA812
Q5	8-729-100-66	2SC1623
Q6	8-729-100-76	2SA812
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-76	2SA812
Q10	8-729-100-66	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-729-100-66	2SC1623
Q13	8-729-100-76	2SA812
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-76	2SA812
Q17	8-729-100-66	2SC1623
Q18	8-729-100-66	2SC1623
Q19	8-729-100-66	2SC1623
Q20	8-729-100-76	2SA812
Q21	8-729-100-76	2SA812
Q22	8-729-100-66	2SC1623
Q23	8-729-100-66	2SC1623
Q24	8-729-100-66	2SC1623
Q25	8-729-100-66	2SC1623
Q26	8-729-100-66	2SC1623
Q27	8-729-100-66	2SC1623
Q28	8-729-100-76	2SA812
Q29	8-729-100-76	2SA812
Q30	8-729-100-76	2SA812

Ref. No.	Part No.	Description
Q31	8-729-100-66	2SC1623
Q32	8-729-100-66	2SC1623
Q33	8-729-100-76	2SA812
Q34	8-729-100-66	2SC1623
Q35	8-729-201-04	2SC2878
Q36	8-729-201-04	2SC2878
Q37	8-729-201-04	2SC2878
Q38	8-729-100-66	2SC1623
Q39	8-729-100-66	2SC1623
Q40	8-729-100-66	2SC1623
Q41	8-729-100-76	2SA812
Q42	8-729-100-66	2SC1623
Q43	8-729-100-66	2SC1623
Q44	8-729-100-66	2SC1623
Q45	8-729-100-76	2SA812
Q46	8-729-100-66	2SC1623
Q47	8-729-100-66	2SC1623
Q48	8-729-100-66	2SC1623
Q49	8-729-100-66	2SC1623
Q50	8-729-100-76	2SA812
Q51	8-729-100-66	2SC1623
Q52	8-729-100-76	2SA812
R1	1-214-482-00	METAL 2.55K 1% 1/2W
R2	1-214-483-00	METAL 4.99K 1% 1/2W
R3	1-214-485-00	METAL 13.7K 1% 1/2W
R6	1-215-445-00	METAL 10K 1% 1/6W
R7	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R7	1-215-434-00	METAL 3.6K 1% 1/6W (EK)
R11	1-215-421-00	METAL 1K 1% 1/6W
R12	1-215-421-00	METAL 1K 1% 1/6W
R16	1-215-429-00	METAL 2.2K 1% 1/6W
R17	1-215-428-00	METAL 5.1K 1% 1/6W
R24	1-215-437-00	METAL 4.7K 1% 1/6W
R25	1-215-453-00	METAL 22K 1% 1/6W
R26	1-215-394-00	METAL 75 1% 1/6W
R27	1-215-394-00	METAL 75 1% 1/6W
R49	1-214-502-00	METAL 2.67K 0.5% 1/4W (UC)
R49	1-214-482-00	METAL 2.55K 1% 1/2W (EK)
R50	1-214-501-00	METAL 2.32K 0.5% 1/4W (UC)
R50	1-214-485-00	METAL 13.7K 1% 1/2W (EK)
R51	1-215-421-00	METAL 1K 1% 1/6W
R52	1-215-421-00	METAL 1K 1% 1/6W
R56	1-215-428-00	METAL 2K 1% 1/6W
R58	1-215-428-00	METAL 5.1K 1% 1/6W
R64	1-215-414-00	METAL 510 1% 1/6W
R65	1-215-454-00	METAL 24K 1% 1/6W
R66	1-215-448-00	METAL 13K 1% 1/6W

Ref. No.	Part No.	Description
R71	1-215-421-00	METAL 1K 1% 1/6W
R72	1-215-421-00	METAL 1K 1% 1/6W
R75	1-215-432-00	METAL 3K 1% 1/6W (UC)
R75	1-215-435-00	METAL 3.9K 1% 1/6W (EK)
R80	1-214-503-00	METAL 3.32K 0.5% 1/4W (UC)
R81	1-214-500-00	METAL 2.26K 0.5% 1/4W (UC)
R83	1-215-423-00	METAL 1.2K 1% 1/6W (UC)
R83	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R87	1-215-428-00	METAL 2K 1% 1/6W
R89	1-215-428-00	METAL 2K 1% 1/6W
R98	1-215-414-00	METAL 510 1% 1/6W
R99	1-215-454-00	METAL 24K 1% 1/6W
R100	1-215-448-00	METAL 13K 1% 1/6W
R101	1-215-431-00	METAL 2.7K 1% 1/6W
R102	1-215-414-00	METAL 510 1% 1/6W
R123	1-215-393-00	METAL 68 1% 1/6W
R124	1-215-393-00	METAL 68 1% 1/6W
R128	1-215-393-00	METAL 68 1% 1/6W
R135	1-215-394-00	METAL 75 1% 1/6W
R153	1-215-393-00	METAL 68 1% 1/6W
R164	1-215-423-00	METAL 1.2K 1% 1/6W (UC)
R164	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R170	1-247-795-00	CARBON 33 5% 1/6W
RV1	1-230-520-11	METAL 1K
RV2	1-226-703-00	METAL 10K
RV3	1-230-521-11	METAL 2.2K
RV4	1-230-521-11	METAL 2.2K
RV5	1-230-522-11	METAL 4.7K
RV6	1-230-521-11	METAL 2.2K
RV7	1-226-770-00	METAL 470
RV8	1-230-521-11	METAL 2.2K
RV9	1-226-773-00	METAL 22K
RV10	1-230-522-11	METAL 4.7K
RV11	1-228-308-00	METAL 10K
RV12	1-228-308-00	METAL 10K

Ref. No	Part No.	Description
S1	**1-554-508-00**	**SLIDE**
S2	**1-554-508-21**	**SLIDE**
S3	**1-554-508-21**	**SLIDE**
T1	**1-427-270-00**	**OUTPUT**

HN-42 BOARD

Ref. No.	Part No.	Description
	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"
C1	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C2	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C3	**1-130-483-00**	**MYLAR 0.01 5% 50V**
C4	**1-130-483-00**	**MYLAR 0.01 5% 50V**
CN1	1-562-877-11	RECEPTACLE, 50P FEMALE
CN2	1-562-877-11	RECEPTACLE, 50P FEMALE
CN3	1-562-877-11	RECEPTACLE, 50P FEMALE
CN4	1-562-877-11	RECEPTACLE, 50P FEMALE
CN5	1-562-877-11	RECEPTACLE, 50P FEMALE
CN6	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-562-026-00	PLUG CONTACT
CN7	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN8	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN9	1-560-619-00	RECEPTACLE, 7P
	1-561-754-22	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN10	1-564-017-00	RECEPTACLE, 7P MALE
	1-562-152-11	PLUG HOUSING 7P
	1-564-026-00	PLUG CONTACT
CN11	1-564-018-11	RECEPTACLE, 8P MALE
	1-562-153-11	PLUG HOUSING 8P
	1-564-026-00	PLUG CONTACT
CN12	1-564-014-00	RECEPTACLE, 4P MALE
	1-562-149-11	PLUG HOUSING 4P
	1-564-026-00	PLUG CONTACT
CN13	1-564-016-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN14	1-560-619-00	RECEPTACLE, 7P
	1-561-754-12	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN15	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN16	1-560-368-00	RECEPTACLE, 6P
CN17	1-560-365-00	RECEPTACLE, 3P
	1-561-515-00	PLUG HOUSING 3P
	1-560-372-00	PLUG CONTACT
CN18	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN19	1-564-877-11	RECEPTACLE, 15P MALE
	1-562-958-11	PLUG HOUSING 15P
	1-564-026-00	PLUG CONTACT
CN20	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN21	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
L1	**1-408-448-11**	**MICRO 33**

IE-14/14P BOARD

Ref. No.	Part No.	Description
	A-7513-343-A	MOUNTED CIRCUIT BOARD "IE-14" (UC)
	A-7513-344-A	MOUNTED CIRCUIT BOARD "IE-14P" (EK)
C3	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C5	**1-163-088-00**	**CERAMIC CHIP 5PF ±0.25PF 50V**
C11	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C24	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C25	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C27	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C30	**1-124-140-00**	**ELECT 220 20% 10V**
C41	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C44	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C45	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C46	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C51	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C53	**1-163-091-00**	**CERAMIC CHIP 8PF ±0.25PF 50V**
C54	**1-163-091-00**	**CERAMIC CHIP 8PF ±0.25PF 50V**
C57	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C58	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C59	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C61	**1-163-091-00**	**CERAMIC CHIP 8PF ±0.25PF 50V**
C62	**1-163-091-00**	**CERAMIC CHIP 8PF ±0.25PF 50V**
C66	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C67	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C69	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C88	**1-163-097-00**	**CERAMIC CHIP 15PF 5% 50V**
C89	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C90	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C91	**1-163-093-00**	**CERAMIC CHIP 10PF 5% 50V**
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	**8-719-100-05**	**1S2837**
D2	**8-719-100-03**	**1S2835**
D3	**8-719-100-05**	**1S2837**

Ref. No.	Part No.	Description
DL1	**1-415-305-51**	**63.47μS (UC)**
DL1	**1-415-305-61**	**63.915μS (EK)**
DL2	**1-415-307-00**	**165nS**
IC1	**8-759-700-95**	**NJM1496M: JRC**
IC2	**8-759-700-95**	**NJM1496M: JRC**
IC3	**8-759-907-33**	**μA733CN: TI**
IC4	**8-759-400-05**	**AN6041: PANASONIC**
IC5	**8-759-729-03**	**NJM2903D: JRC**
IC6	**8-759-240-53**	**TC4053BP: TOSHIBA**
IC7	**8-759-990-62**	**TL062CP: TI**
IC8	**8-759-990-62**	**TL062CP: TI**
IC9	**8-758-150-00**	**CX815: SONY**
L1	**1-408-413-00**	**MICRO 22**
L2	**1-408-409-00**	**MICRO 10**
L3	**1-408-147-00**	**MICRO 2.2**
L4	**1-408-146-00**	**MICRO 1**
L5	**1-408-409-00**	**MICRO 10**
L6	**1-408-409-00**	**MICRO 10**
L7	**1-408-413-00**	**MICRO 22**
L8	**1-408-412-00**	**MICRO 18**
L9	**1-408-413-00**	**MICRO 22**
L10	**1-408-413-00**	**MICRO 22**
L11	**1-408-413-00**	**MICRO 22**
L12	**1-408-413-00**	**MICRO 22**
L13	**1-408-147-00**	**MICRO 2.2**
L14	**1-408-147-00**	**MICRO 2.2**
L15	**1-408-413-00**	**MICRO 22**
L16	**1-408-413-00**	**MICRO 22**
L17	**1-408-429-00**	**MICRO 470**
L18	**1-408-147-00**	**MICRO 2.2**
L20	**1-408-147-00**	**MICRO 2.2**
LV1	**1-408-388-00**	**3.3**
LV2	**1-408-388-00**	**3.3**
Q1	**8-729-100-66**	**2SC1623**
Q2	**8-729-100-66**	**2SC1623**
Q3	**8-729-100-66**	**2SC1623**
Q4	**8-729-100-66**	**2SC1623**
Q5	**8-729-175-73**	**2SC2757**
Q6	**8-729-175-73**	**2SC2757**
Q7	**8-729-175-73**	**2SC2757**
Q8	**8-729-800-43**	**2SK152-3**
Q9	**8-729-100-76**	**2SA812**
Q10	**8-729-122-63**	**2SA1226**

Ref. No.	Part No.	Description
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-175-73	2SC2757
Q16	8-729-100-66	2SC1623
Q17	8-729-100-76	2SA812
Q18	8-729-800-43	2SK152-3
Q19	8-729-100-66	2SC1623
Q20	8-729-100-66	2SC1623
Q21	8-729-122-63	2SA1226
Q22	8-729-100-76	2SA812
Q23	8-729-100-66	2SC1623
Q24	8-729-175-73	2SC2757
Q25	8-729-175-73	2SC2757
Q26	8-729-122-63	2SA1226
Q27	8-729-800-43	2SK152-3
Q28	8-729-175-73	2SC2757
Q29	8-729-800-43	2SK152-3
Q30	8-729-175-73	2SC2757
Q31	8-729-175-73	2SC2757
Q32	8-729-175-73	2SC2757
Q33	8-729-175-73	2SC2757
Q34	8-279-100-66	2SC1623
Q35	8-279-100-66	2SC1623
Q36	8-279-100-66	2SC1623
Q37	8-729-104-45	2SJ44
Q38	8-279-100-66	2SC1623
Q39	8-279-100-66	2SC1623
Q40	8-279-100-66	2SC1623
Q41	8-279-100-66	2SC1623
Q42	8-279-100-66	2SC1623
Q43	8-279-100-66	2SC1623
Q44	8-279-100-66	2SC1623
Q45	8-279-100-66	2SC1623
Q46	8-279-100-66	2SC1623
Q47	8-279-100-66	2SC1623
Q48	8-729-175-73	2SC2757
Q49	8-279-100-66	2SC1623
Q50	8-729-100-76	2SA812
Q51	8-279-100-66	2SC1623
Q52	8-729-122-63	2SA1226

Ref. No.	Part No.	Description
R9	1-215-422-00	METAL 1.1K 1% 1/6W
R10	1-215-412-00	METAL 430 1% 1/6W
R16	1-215-422-00	METAL 1.1K 1% 1/6W
R17	1-215-412-00	METAL 430 1% 1/6W
R23	1-215-413-00	METAL 470 1% 1/6W
R32	1-215-390-00	METAL 51 1% 1/6W
R33	1-215-390-00	METAL 51 1% 1/6W
R34	1-215-385-00	METAL 33 1% 1/6W
R37	1-215-418-00	METAL 750 1% 1/6W
R39	1-215-418-00	METAL 750 1% 1/6W
R41	1-215-437-00	METAL 4.7K 1% 1/6W
R44	1-215-420-00	METAL 910 1% 1/6W
R46	1-215-462-00	METAL 51K 1% 1/6W
R49	1-215-413-00	METAL 470 1% 1/6W
R50	1-215-437-00	METAL 4.7K 1% 1/6W
R51	1-215-426-00	METAL 1.6K 1% 1/6W
R52	1-215-413-00	METAL 470 1% 1/6W
R64	1-215-457-00	METAL 33K 1% 1/6W
R66	1-215-418-00	METAL 750 1% 1/6W
R67	1-215-463-00	METAL 56K 1% 1/6W
R72	1-215-425-00	METAL 1.5K 1% 1/6W
R76	1-215-436-00	METAL 4.3K 1% 1/6W
R77	1-215-418-00	METAL 750 1% 1/6W
R78	1-215-418-00	METAL 750 1% 1/6W
R88	1-215-412-00	METAL 430 1% 1/6W
RV1	1-230-521-11	METAL 2.2K
RV2	1-228-394-00	METAL 4.7K
RV3	1-230-893-11	METAL 220
RV4	1-224-939-00	METAL 5K
RV5	1-228-306-00	METAL 2K
RV6	1-230-522-11	METAL 4.7K
RV7	1-228-308-00	METAL 10K
S1	1-570-373-11	SLIDE
S2	1-552-509-00	DIP
R89	1-215-450-00	METAL 16K 1% 1/6W
R99	1-215-412-00	METAL 430 1% 1/6W
R100	1-215-412-00	METAL 430 1% 1/6W
R101	1-215-412-00	METAL 430 1% 1/6W
R102	1-215-412-00	METAL 430 1% 1/6W
R119	1-215-433-00	METAL 3.3K 1% 1/6W
R120	1-215-433-00	METAL 3.3K 1% 1/6W
R148	1-215-412-00	METAL 430 1% 1/6W

PA-40 BOARD

Ref. No.	Part No.	Description
	A-7513-337-A	MOUNTED CIRCUIT BOARD "PA-40" (R)
	A-7513-338-A	MOUNTED CIRCUIT BOARD "PA-40" (B)
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C12	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C17	1-163-263-00	CERAMIC CHIP 330PF 5% 50V
CV1	1-141-284-00	TRIMMER 20.5
FL1	1-235-771-11	LOW PASS 9.5MHz
Q1	8-719-175-73	2SC2757
Q2	8-729-100-76	2SA812
Q3	8-769-401-84	3SK163-4
Q4	8-729-100-66	2SC1623
Q5	8-729-100-76	2SA812
Q6	8-769-401-85	3SK163-5
Q7	8-729-100-66	2SC1623
Q8	8-729-100-76	2SA812
Q9	8-769-401-85	3SK163-5
Q10	8-729-100-66	2SC1623
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623

PA-41 BOARD

Ref. No.	Part No.	Description
	A-7513-339-A	MOUNTED CIRCUIT BOARD "PA-41"
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C12	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C15	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C16	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C20	1-163-263-00	CDRAMIC CHIP 330PF 5% 50V
FL1	1-235-771-11	LOW PASS 9.5MHz
Q1	8-729-175-73	2SC2757
Q2	8-729-100-76	2SA812
Q3	8-769-401-84	3SK163-4
Q4	8-729-100-66	2SC1623
Q5	8-729-100-76	2SA812
Q6	8-769-401-85	3SK163-5
Q7	8-729-102-62	2SC1623
Q8	8-729-100-76	2SA812
Q9	8-769-401-85	3SK163-5
Q10	8-729-102-62	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-769-401-85	3SK163-5
Q13	8-729-102-62	2SC1623
Q14	8-729-100-76	2SA812
Q15	8-769-401-85	3SK163-5
Q16	8-729-102-62	2SC1623
Q17	8-729-102-62	2SC1623
Q18	8-729-102-62	2SC1623
Q19	8-729-102-62	2SC1623
Q20	8-729-102-62	2SC1623
Q21	8-729-100-66	2SC1623
Q22	8-729-100-66	2SC1623

PR-71/71P BOARD

Ref. No.	Part No.	Description
	A-7513-345-A	MOUNTED CIRCUIT BOARD "PR-71" (UC)
	A-7513-346-A	MOUNTED CIRCUIT BOARD "PR-71P" (EK)
C21	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C29	**1-163-099-00**	**CERAMIC CHIP 18PF 5% 50V**
C32	**1-124-145-00**	**ELECT 330 20% 16V**
C34	**1-124-149-00**	**ELECT 220 20% 25V**
C35	**1-124-148-00**	**ELECT 100 20% 25V**
C36	**1-124-140-00**	**ELECT 220 20% 10V**
C37	**1-124-140-00**	**ELECT 220 20% 10V**
C38	**1-124-140-00**	**ELECT 220 20% 6.3V**
C40	**1-124-140-00**	**ELECT 220 20% 6.3V**
C44	**1-163-267-00**	**CERAMIC CHIP 470 5% 50V**
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	**8-719-951-12**	**HZ5BLL**
D2	**8-719-100-05**	**1S2837**
D3	**8-719-100-05**	**1S2837**
D4	**8-719-951-12**	**HZ5BLL**
D5	**8-719-100-05**	**1S2837**
D6	**8-719-100-05**	**1S2837**
D7	**8-719-942-31**	**HZ3ALL**
D8	**8-719-951-12**	**HZ5BLL**
D9	**8-719-100-05**	**1S2837**
D10	**8-719-100-05**	**1S2837**
D11	**8-719-100-05**	**1S2837**
D12	**8-719-981-01**	**ERA81-004**
D13	**8-719-981-01**	**ERA81-004**
D14	**8-719-981-01**	**ERA81-004**
D15	**8-719-981-01**	**ERA81-004**
D16	**8-719-981-01**	**ERA81-004**
D17	**8-719-981-01**	**ERA81-004**
D18	**8-719-981-01**	**ERA81-004**
D19	**8-719-981-01**	**ERA81-004**
D20	**8-719-100-05**	**1S2837**
D21	**8-719-105-82**	**RD5.1M-B2**
D22	**8-719-100-05**	**1S2837**
D23	**8-719-100-05**	**1S2837**
D24	**8-719-100-05**	**1S2837**
D101	**8-719-815-55**	**1S1555**
D102	**8-719-815-55**	**1S1555**
D103	**8-719-815-55**	**1S1555**
DL1	**1-415-307-00**	**165nS**
DL2	**1-415-307-00**	**165nS**
IC1	**8-741-134-90**	**BX1349: SONY**
IC2	**8-741-134-80**	**BX1348: SONY**
IC3	**8-741-135-00**	**BX1350: SONY**
IC4	**8-741-135-10**	**BX1351: SONY**
IC5	**8-759-204-51**	**TC40H008F: TOSHIBA**
IC6	**8-741-134-90**	**BX1349: SONY**
IC7	**8-741-134-80**	**BX1348: SONY**
IC8	**8-741-135-00**	**BX1350: SONY**
IC9	**8-759-200-81**	**TC4053BF: TOSHIBA**
IC10	**8-741-134-90**	**BX1349: SONY**
IC11	**8-741-134-80**	**BX1348: SONY**
IC12	**8-741-135-00**	**BX1350: SONY**
IC13	**8-759-906-53**	**TL062CPS: TI**
IC14	**8-759-700-07**	**NJM2903M: JRC**
L1	**1-408-409-00**	**MICRO 10**
L3	**1-408-409-00**	**MICRO 10**
L5	**1-421-013-00**	**CHOKE 25MH**
L6	**1-421-013-00**	**CHOKE 25MH**
L7	**1-421-013-00**	**CHOKE 25MH**
L8	**1-421-013-00**	**CHOKE 25MH**
L9	**1-421-013-00**	**CHOKE 25MH**
L10	**1-408-413-00**	**MICRO 22**
L11	**1-408-413-00**	**MICRO 22**
L12	**1-408-413-00**	**MICRO 22**
R69	**1-247-696-11**	**CARBON 47 5% 1/4W**
R70	**1-247-696-11**	**CARBON 47 5% 1/4W**
R74	**1-215-447-00**	**METAL 12K 1% 1/6W**
R75	**1-215-449-00**	**METAL 15K 1% 1/6W**
R77	**1-215-445-00**	**METAL 10K 1% 1/6W**
R78	**1-215-445-00**	**METAL 10K 1% 1/6W**
R79	**1-215-429-00**	**METAL 2.2K 1% 1/6W**
R126	**1-247-708-11**	**CARBON 470 5% 1/4W**
R127	**1-247-708-11**	**CARBON 470 5% 1/4W**
R128	**1-247-708-11**	**CARBON 470 5% 1/4W**

Ref. No.	Part No.	Description
RV1	**1-230-520-11**	**METAL 1K**
RV2	**1-226-774-00**	**METAL 47K**
RV3	**1-230-522-11**	**METAL 4.7K**
RV4	**1-230-519-11**	**METAL 470**
RV5	**1-226-774-00**	**METAL 47K**
RV6	**1-230-520-11**	**METAL 1K**
RV7	**1-226-703-00**	**METAL 10K**
RV8	**1-230-520-11**	**METAL 1K**
RV9	**1-230-522-11**	**METAL 4.7K**
RV10	**1-230-519-00**	**METAL 470**
RV11	**1-226-774-00**	**METAL 47K**
RV12	**1-230-521-11**	**METAL 2.2K**
RV13	**1-230-521-11**	**METAL 2.2K**
RV14	**1-230-521-11**	**METAL 2.2K**
RV15	**1-230-521-11**	**METAL 2.2K**
RV16	**1-230-521-11**	**METAL 2.2K**
RV17	**1-230-521-11**	**METAL 2.2K**
RV18	**1-230-520-11**	**METAL 1K**
RV19	**1-226-774-00**	**METAL 47K**
RV20	**1-230-522-11**	**METAL 4.7K**
RV21	**1-226-770-00**	**METAL 470**
RV22	**1-226-774-00**	**METAL 47K**
T1	**1-448-363-11**	**DC-DC CONVERTER**
TH1	**1-807-467-11**	**POSITIVE 470 Ω**
TH2	**1-807-467-11**	**POSITIVE 470 Ω**
TH3	**1-807-467-11**	**POSITIVE 470 Ω**

Ref. No. Part No. Description

SG-37/37P BOARD

Ref. No.	Part No.	Description
	A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37" (UC)
	A-7513-348-A	MOUNTED CIRCUIT BAORD "SG-37P" (EK)
C3	**1-163-233-00**	**CERAMIC CHIP 18PF 5% 50V**
C4	**1-163-111-00**	**CERAMIC CHIP 56PF 5% 50V (UC)**
C4	**1-163-107-00**	**CERAMIC CHIP 39PF 5% 50V (EK)**
C17	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C18	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C20	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C21	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C22	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V (EK)**
C23	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C32	**1-163-125-00**	**CERAMIC CHIP 220PF 5% 50V (UC)**
C34	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C38	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C39	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C43	**1-163-101-00**	**CERAMIC CHIP 22PF 5% 50V**
C45	**1-163-125-00**	**CERAMIC CHIP 200PF 5% 50V (UC)**
C47	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C56	**1-124-141-00**	**ELECT 330 20% 10V**
C60	**1-124-135-00**	**ELECT 470 20% 6.3V**
C62	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C64	**1-163-099-00**	**CERAMIC CHIP 18PF 5% 50V**
C69	**1-124-139-00**	**ELECT 100PF 20% 10V**
C74	**1-163-093-00**	**CERAMIC CHIP 10PF 5% 50V**
C75	**1-163-093-00**	**CERAMIC CHIP 10PF 5% 50V**
C80	**1-163-117-00**	**CERAMIC CHIP 100PF 5% 50V**
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	**8-719-100-03**	**1S2835**
D2	**8-719-101-23**	**1SS123**
D3	**8-719-100-03**	**1S2835**
D4	**8-719-100-03**	**1S2835**
D5	**8-719-100-03**	**1S2835**
D6	**8-719-143-07**	**RD4.3EB**
D7	**8-719-101-23**	**1SS123**
D8	**8-729-100-05**	**1S2837**
D9	**8-719-106-73**	**RD12M-B1**

SG-37/SG-37P

Ref. No.	Part No.	Description
IC1	8-741-134-00	BX1340: SONY
IC2	8-741-133-70	BX1337: SONY
IC3	8-759-240-53	TC4053BP: TOSHIBA
IC4	8-759-135-80	μPC358C: NEC
IC5	8-757-930-11	CX7930A: SONY
IC6	8-759-145-58	μPC4558C: NEC
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-902-21	SN74LS221N: TI
IC9	8-759-045-57	MC14557BCP: MOTOROLA
IC10	8-759-220-00	TC40H000P: TOSHIBA
IC11	8-759-990-82	TL082CP: TI
IC12	8-759-901-23	SN74LS123N: TI
IC13	8-759-902-21	SN74LS221N: TI
IC14	8-759-605-18	CX518: SONY
IC15	8-759-700-04	NJM2043D-D: JRC
L1	1-408-417-00	MICRO 47
L2	1-408-417-00	MICRO 47
L3	1-408-423-00	MICRO 150 (UC)
L3	1-408-615-00	MICRO 100 (EK)
L4	1-408-415-00	MICRO 33
L5	1-408-417-00	MICRO 47
L7	1-408-417-00	MICRO 47
L8	1-408-417-00	MICRO 47
L9	1-408-417-00	MICRO 47
L10	1-408-417-00	MICRO 47
L11	1-408-401-00	MICRO 2.2
Q1	8-729-100-76	2SA812
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-76	2SA812
Q10	8-729-109-44	2SK94
Q11	8-729-175-73	2SC2757
Q12	8-729-122-63	2SA1226
Q13	8-729-175-73	2SC2757
Q14	8-729-122-63	2SA1226
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623
Q17	8-729-109-44	2SK94

Ref. No.	Part No.	Description
R8	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R8	1-215-429-00	METAL 2.2K 1% 1/6W (EK)
R9	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
R9	1-215-435-00	METAL 3.9K 1% 1/6W (EK)
R28	1-215-464-00	METAL 62K 1% 1/6W (UC)
R30	1-215-461-00	METAL 47K 1% 1/6W (UC)
R37	1-215-456-00	METAL 30K 1% 1/6W
R38	1-215-455-00	METAL 27K 1% 1/6W
R44	1-215-445-00	METAL 10K 1% 1/6W
R45	1-215-457-00	METAL 33K 1% 1/6W
R46	1-215-453-00	METAL 22K 1% 1/6W
R51	1-215-443-00	METAL 8.2K 1% 1/6W
R52	1-215-445-00	METAL 10K 1% 1/6W
R54	1-216-433-00	METAL 3.3K 1% 1/6W (UC)
R54	1-215-447-00	METAL 12K 1% 1/6W (EK)
R88	1-215-394-00	METAL 75 1% 1/6W
RV1	1-228-519-11	METAL 2.2K
RV2	1-228-759-00	METAL 22K (UC)
RV3	1-228-395-00	METAL 10K
RV4	1-228-761-00	METAL 100K
S1	1-553-429-00	SLIDE (UC)
T1	1-427-487-00	OUTPUT
X1	1-567-549-11	28.63636MHz (UC)
X1	1-567-550-11	28.375MHz (EK)
X2	1-527-585-00	17.734475MHz (EK)

SW-29 BOARD

Ref. No.	Part No.	Description
	1-617-357-12	PRINTED CIRCUIT BOARD "SW-29"
⚠R1	**1-217-200-00**	**WIREWOUND 1 10% 2W**
S1	**1-554-506-00**	**TOGGLE**
S2	**1-554-506-00**	**TOGGLE**
S3	**1-554-507-00**	**TOGGLE**

SW-30 BOARD

Ref. No.	Part No.	Description
	1-617-358-11	PRINTED CIRCUIT BOARD "SW-30"
S1	**1-553-739-00**	**PUSH**
S2	**1-553-739-00**	**PUSH**
S3	**1-554-486-00**	**TOGGLE [AUTO B/W BALANCE]**

SWB-13 BOARD

Ref. No.	Part No.	Description
	1-617-359-11	PRINTED CIRCUIT BOARD "SWB-13"
S1	**1-553-739-00**	**PUSH**
S2	**1-554-165-00**	**SLIDE**

TG-18/18P BOARD

Ref. No.	Part No.	Description
	A-7513-335-A	MOUNTED CIRCUIT BOARD "TG-18" (UC)
	A-7513-336-A	MOUNTED CITCUIT BOARD "TG-18P" (EK)
C1	**1-163-141-00**	**CERAMIC CHIP 0.001 5% 50V**
C5	**1-124-140-00**	**ELECT 220 20% 6.3V**
C6	**1-163-141-00**	**CERAMIC CHIP 0.001 5% 50V**
C13	**1-124-141-00**	**ELECT 330 20% 10V**
C24	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C25	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C29	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C30	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C34	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C35	**1-163-251-00**	**CERAMIC CHIP 100PF 5% 50V**
C39	**1-163-109-00**	**CERAMIC CHIP 47PF 5% 50V**
C40	**1-163-247-00**	**CERAMIC CHIP 68PF 5% 50V**
C41	**1-163-105-00**	**CERAMIC CHIP 33PF 5% 50V**
C47	**1-163-235-00**	**CERAMIC CHIP 22PF 5% 50V**
C50	**1-107-159-00**	**MICA 33PF 5% 500V** Ser.No. 10001∼10205 (J) 10001∼10810 (UC) 10001∼10440 (EK)
CN1	1-564-003-00	RECEPTACLE, 4P MALE
	1-562-149-11	PLUG HOUSING 4P
	1-564-026-00	PLUG CONTACT
CN2	1-564-008-00	RECEPTACLE, 9P MALE
	1-562-154-11	PLUG HOUSING 9P
	1-564-026-00	PLUG CONATCT
CN3	1-564-015-00	RECEPTACLE, 5P MALE
	1-562-150-11	PLUG HOUSING 5P
	1-564-026-00	PLUG CONTACT
CN4	1-564-019-00	RECEPTACLE, 9P MALE
	1-564-154-11	PLUG HOUSING 9P
	1-562-026-00	PLUG CONTACT
CN5	1-564-003-00	RECEPTACLE, 4P MALE
	1-562-149-11	PLUG HOUSING 4P
	1-564-026-00	PLUG CONTACT
CN6	1-564-008-00	RECEPTACLE, 9P MALE
	1-562-154-11	PLUG HOUSING 9P
	1-564-026-00	PLUG CONTACT

TG-18/TG-18P, FRAME

Ref. No.	Part No.	Description
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-03	1S2835
D4	8-719-100-05	1S2837
D5	8-719-100-05	1S2837
D6	8-719-100-05	1S2837
D7	8-719-100-05	1S2837
D9	8-719-100-05	1S2837
D10	8-719-100-05	1S2837
D11	8-719-100-05	1S2837
IC1	8-759-913-03	CX23047A: SONY
IC4	8-759-000-26	MMH0026CP1: MOTOROLA
IC5	8-759-000-26	MMH0026CP1: MOTOROLA
IC6	8-759-000-26	MMN0026CP1: MOTOROLA
IC7	8-759-205-00	TC74HC14F: TOSHIBA
IC8	8-752-001-10	CX20011: SONY
IC9	8-759-204-98	TC74HC08F: TOSHIBA
IC10	8-759-278-12	TA78L012AP: TOSHIBA
Q1	8-729-100-76	2SA812
R24	1-214-583-00	METAL 12K 1% 1/8W
R25	1-214-565-00	METAL 2.2K 1% 1/8W
R26	1-214-561-00	METAL 1.5K 1% 1/8W
RV1	1-230-520-11	METAL 1K

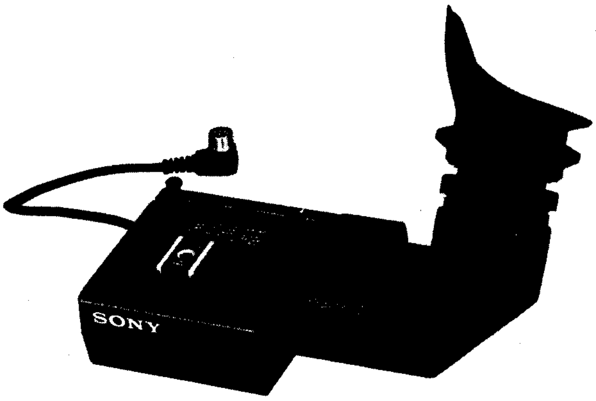
FRAME

Ref. No.	Part No.	Description
	A-7550-031-A	MOUNTED CIRCUIT BOARD, LENS
	A-7575-089-A	**CCD UNIT (UC,J)**
	A-7575-090-A	**CCD UNIT (EK)**
	1-413-163-21	**POWER UNIT**
	1-617-361-11	PRINTED CIRCUIT BOARD "CN-111"
CN101	1-561-233-21	RECEPTACLE, 6P FEMALE "LENS"
CN102	1-561-320-00	RECEPTACLE, 8P FEMALE "VF"
CN103	1-563-096-11	RECEPTACLE (WITH SW), 3P FEMALE "MIC IN" (UC, EK)
CN104	1-561-781-41	RECEPTACLE, BNC "VIDEO OUT"
CN105	1-561-781-41	RECEPTACLE, BNC "GEN LOCK IN"
CN106	1-508-942-00	RECEPTACLE, 14P MALE "VTR/CCU/CMA"
CN107	1-564-603-11	RECEPTACLE (WITH DC SW), 4P MALE "DC IN"
D101	8-719-100-65	RD12EB1
D102	8-719-112-01	RD12EB
J101	1-507-682-00	"EAR"
Q101	8-729-315-63	2SB856
R101	1-247-826-00	CARBON 620 5% 1/6W
S101	1-570-490-11	TOGGLE "POWER"

1.5-INCH

ELECTRONIC VIEWFINDER

DXF-3000CE

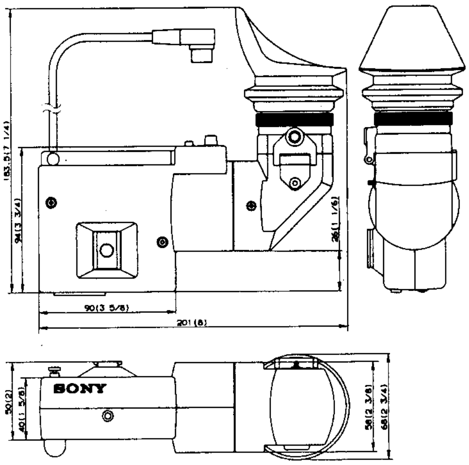


SPECIFICATION

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator, BATT indicator GAIN UP indicator, LOW LIGHT indicator
Signal system	CCIR standards
Scanning system	625 lines, 2 : 1 interlace
Resolution	400 lines
Power requirements	12 V dc
Power consumption	2.3W
Weight	Approx. 600 g (1 lb 4 oz)

Dimensions

Unit : mm
(inches)


183.5(7 1/4)
94(3 3/4)
26(1 1/6)
90(3 5/8)
201(8)
SONY
50(2)
40(1 5/8)
58(2 3/8)
68(2 3/4)

SONY®

SERVICE MANUAL

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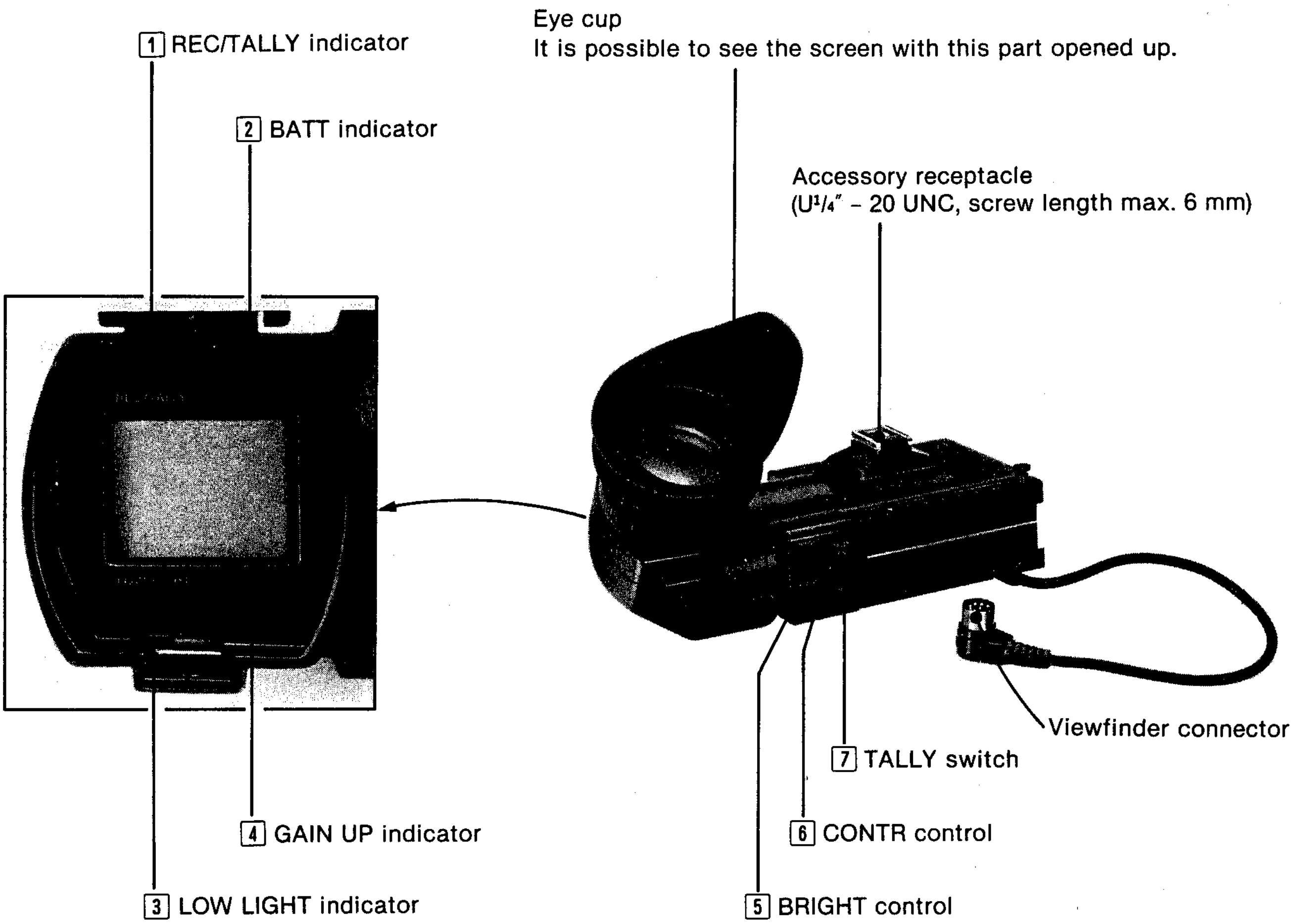
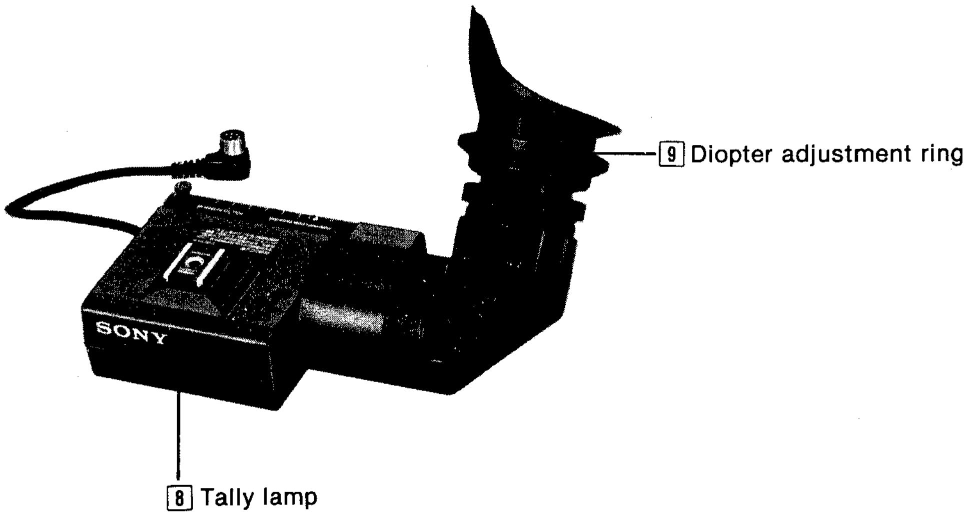
SECTION 1

GENERAL DESCRIPTION

1-1. LOCATION AND FUNCTION OF CONTROLS


1 REC/TALLY indicator
2 BATT indicator
Eye cup
It is possible to see the screen with this part opened up.
Accessory receptacle
(U1/4" - 20 UNC, screw length max. 6 mm)
Viewfinder connector
7 TALLY switch
6 CONTR control
5 BRIGHT control
4 GAIN UP indicator
3 LOW LIGHT indicator


9 Diopter adjustment ring
SONY
8 Tally lamp

1 REC/TALLY indicator
Illuminates during recording with one camera, and illuminates when the camera's picture is selected by a control console, a video switcher, etc., connected to the CCU-M3/M3P camera control unit which is connected to the camera.
The indicator blinks in accordance with the warning system of the VTR.

2 BATT (battery) indicator
Starts blinking several minutes before the battery of the DC-8 battery adaptor, the VTR or the CCU-M3/M3P is discharged to a level at which it cannot power the VTR or the CCU (about 11 V), and illuminates steadily when the battery has discharged to that level. (For details, refer to the table on page 1-35.)

3 LOW LIGHT indicator
Lights up when the video output level from the camera is too low due to insufficient lighting. (Even if the indicator is illuminated, the camera will operate, but the recording will be made at a low video output level.)

4 GAIN UP indicator
Lights up when the GAIN selector is set to 9 dB or 18 dB.

5 BRIGHT (brightness) control
Adjusts the brightness of the picture on the viewfinder screen. To obtain a brighter picture, turn this control clockwise.

Note
This control does not affect the output signal of the camera.

6 CONTR (contrast) control
Adjusts the contrast of the picture on the viewfinder screen.

Note
This control does not affect the output signal of the camera.

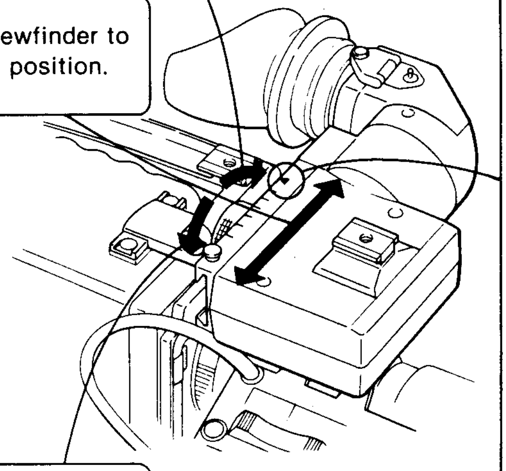
7 TALLY switch
The tally lamp 8 can be activated or deactivated if necessary, by setting this switch to ON or OFF.

8 Tally lamp
When the TALLY switch 7 is set to ON, this lamp operates the same as the REC/TALLY indicator 1.

9 Diopter adjustment ring
Adjusts the diopter. For details about adjustment procedures, refer to page 1-26.

1-2. FOR EASY OPERATION OF THE VIEWFINDER

Adjustment of the horizontal position:

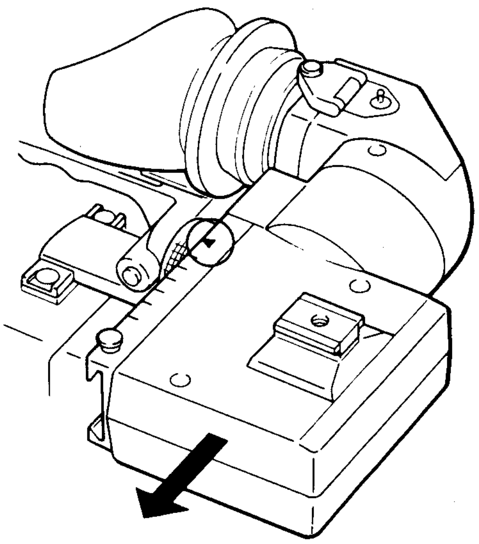


1 Loosen the lock ring.

2 Slide the viewfinder to the desired position.

3 Tighten the ring.

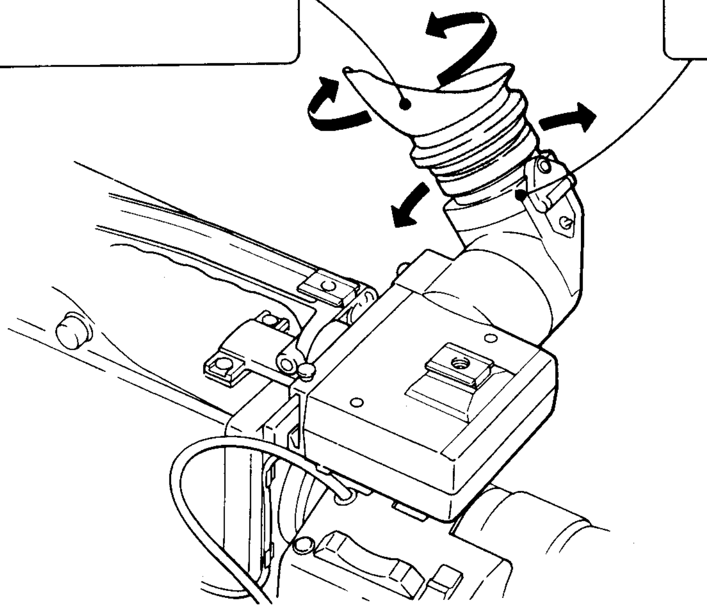
To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the "▼" mark and tighten the lock ring.



The position of the eye cup:

2 Rotate the eye cup to fit the eye used for viewing.

1 Move the eye cup up and down for comfortable use.



1-3. PRECAUTIONS

Safety

- Operate the camera only on 12 V DC. For operation from an ac power line, use the camera adaptor recommended for this camera. Do not use any other camera adaptor.
- Allow adequate air circulation to prevent internal heat build-up.

Operation

- Avoid rough handling or mechanical shock, especially when the lens faces downward.
- Do not operate the camera outside a –5°C to +45°C (23°F to 113°F) temperature range.
- Keep the camera in a horizontal plane.
- Keep the camera away from very strong magnetic fields to avoid distortion and flutter on the screen.
- Do not hold the camera by the viewfinder.

Operation of the viewfinder

Do not point the viewfinder directly at the sun, or the plastic inside the viewfinder may be damaged.

Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

Repacking

Do not discard the carton. It affords maximum protection whenever the camera is transported. Do not transport or ship the camera only in the carrying case. Repack it as it was originally packed at the factory.

SECTION 2
ALIGNMENT

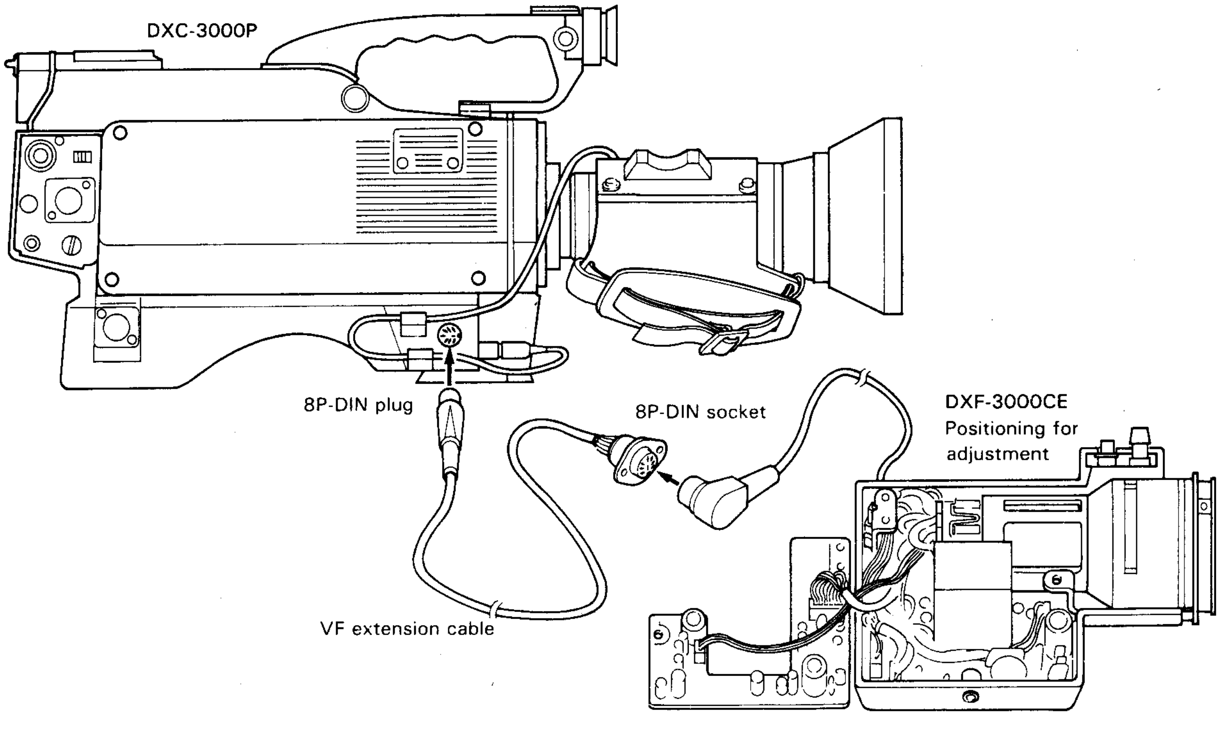
2-1. PREPARATION

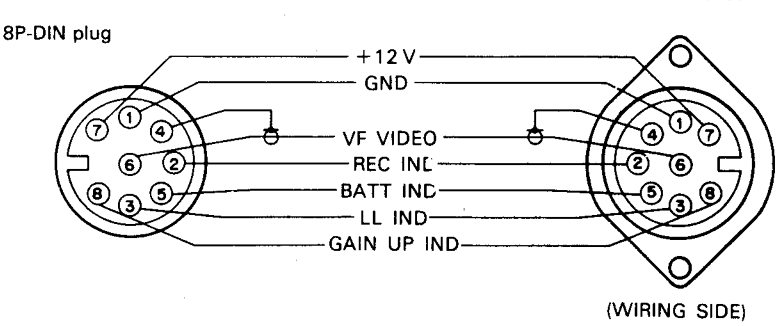
2-1-1. Equipment Required

1. Pattern Box PTB-220
   Sony part number J-6020-680-A
2. Resolution chart: Sony part number J-6021-870-A
3. Video Camera DXC-3000P
4. AC Adapter CMA-7CE or CMA-8CE
5. Camera Cable CCQ-2AR
6. Black and White monitor PVM-91CE or equivalent
7. Digital multimeter
8. Dualtrace oscilloscope
9. VF extension cable: See 2-1-2.

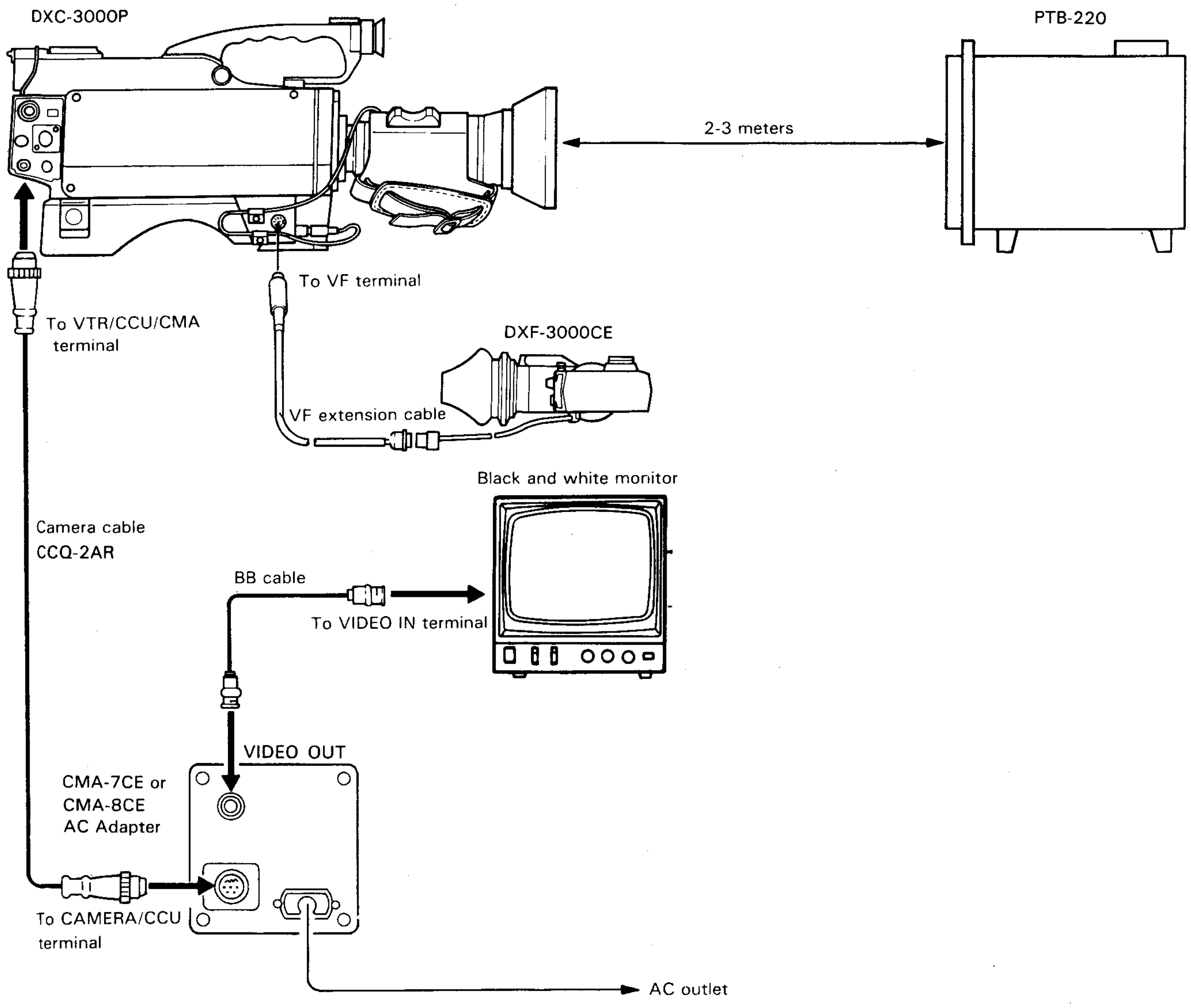
2-1-2. How to make the VF extension cable

8P-DIN plug (male)	Sony part number 1-560-173-00
8P-DIN socket (female)	Sony part number 1-561-320-00


DXC-3000P
8P-DIN plug
8P-DIN socket
DXF-3000CE
Positioning for
adjustment
VF extension cable


8P-DIN plug
8P-DIN socket
+12 V
GND
VF VIDEO
REC IND
BATT IND
LL IND
GAIN UP IND
1
2
3
4
5
6
7
8
(WIRING SIDE)

2-2. CONNECTION AND INITIAL SETTING


DXC-3000P
PTB-220
2-3 meters
To VF terminal
To VTR/CCU/CMA terminal
DXF-3000CE
VF extension cable
Black and white monitor
Camera cable CCQ-2AR
BB cable
To VIDEO IN terminal
VIDEO OUT
CMA-7CE or CMA-8CE AC Adapter
To CAMERA/CCU terminal
AC outlet

2-2-1. Initial settings

1. Set the camera switches and controls as follows.
   DXC-3000P Video Camera
      BARS WB switch: AUTO
      GAIN switch: 0 dB
      PRF HEAT switch: ON
   DXF-3000CE Viewfinder
      CONTRAST control: Fully clockwise
      BRIGHTNESS control: Center
   Lens
      AUTO/MANUAL switch: AUTO

2. Preparation for picture
   (1) Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.
   (2) Adjust the iris control for the best resolution of the monitor.

2-3. VF SYSTEM ADJUSTMENT

2-3-1. 9V Adjustment

Equipment: DC voltmeter
Test point: TP1 (GND:E1)/VF-18A board
Adjustment point: ⊘ RV1/VF-18A board
Specification: 9.0 ±0.05 VDC

2-3-2. Focus Adjustment

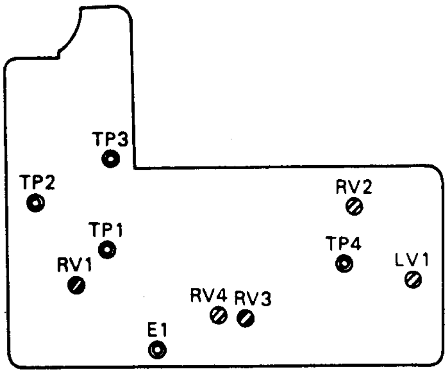
Object: Resolution pattern
Preparations:
1. CONTRAST → Fully clockwise
2. BRIGHTNESS → Center
3. Adjust the RV4 (BRIGHT)/VF-18A board so that the gradation of the resolution pattern is seen clearly.

Adjustment point: ⊘ RV3 on the VF-18A board
Adjustment: Adjust for the best resolution of the viewfinder.

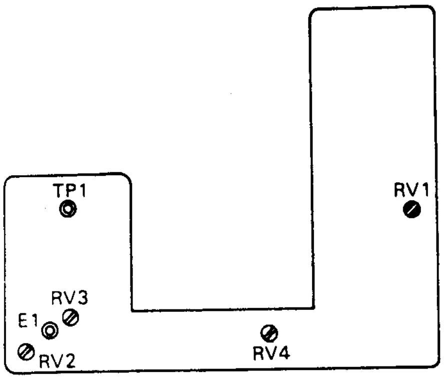
Specifications:

	Center	Circumference
Horizontal	More than 420	More than 350
Vertical	More than 350	More than 300

Note: If this adjustment is performed, adjust 2-3-6. V.H deflection size adjustment.



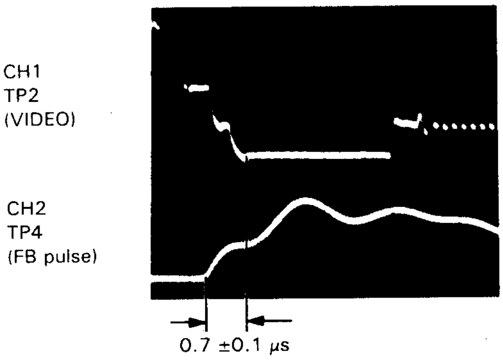
VF-18A board (component side)



VF-23 board (component side)

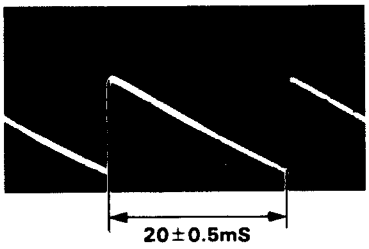
2-3-3. Horizontal hold adjustment

Equipment: Dual trace oscilloscope
Test point: CH-1 TP2 (GND:E1) on the VF-18A board
CH-2 TP4 (GND:chassis) on the VF-18A board
Mode: ALT
Trigger: TP4/VF-18A board
Adjustment point: ⊘ RV1/VF-23 board
Specification: 0.6 ±0.1 μS



2-3-4. Vertical hold adjustment

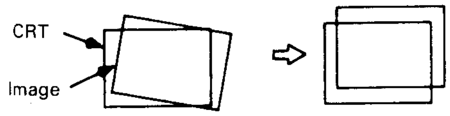
Preparation: Set the PREHEAT switch on the DXC-3000P to OFF.
Equipment: Oscilloscope
Test point: TP1/VF-23 board
Trigger: CN1-1 pin/VF-23 board
Adjustment point: ⊘ RV4/VF-23 board
Specification: 20 ±0.5 mS



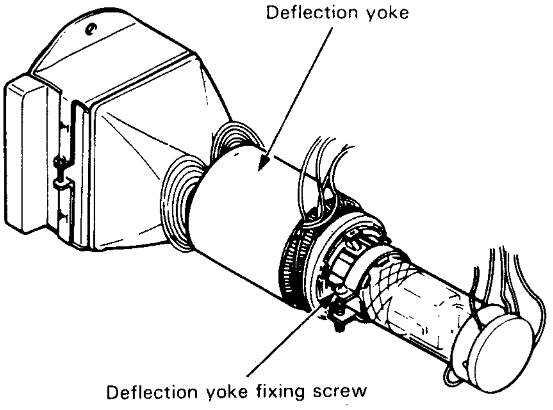
2-3-5. Deflection yoke tilt adjustment

Note: 2-3-6. V.H deflection size adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Adjustment:
1. Loosen the deflection yoke fixing screw, and turn the deflection yoke until any inclination on the viewfinder picture is eliminated.
2. After this adjustment is completed, tighten the fixing screw, pushing the deflection yoke toward the CRT.



(Bad) (Good)


Deflection yoke
Deflection yoke fixing screw

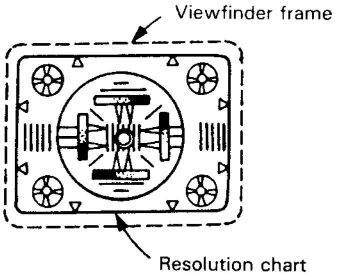
2-3-6. V.H deflection size adjustment

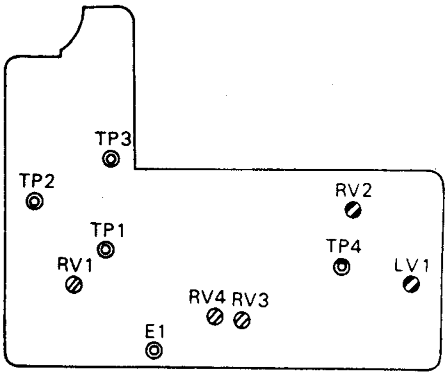
Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Object: Resolution chart

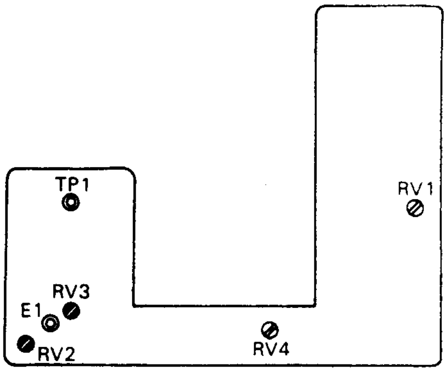
Preparation:
1. Set the external BRIGHT control at the center.
   Adjust the external CONTR control so that the second gradation of the resolution chart is disappeared.

Adjustment:
1. Adjust ⊘ RV2 (V SIZE) and ⊘ RV3 (V LIN)/VF-23 board so that the picture's hight becomes 97±1% (3±1% reduced scan) of viewfinder screen's hight with best longitudinal balance of the circle.
2. Adjust ⊘ RV2 (H SIZE) and ⊘ LV1 (H LIN)/VF-18A board so that the picture's width becomes 98±1% (2±1% reduced scan) of viewfinder screen's width with best lateral balance of the circle.


Viewfinder frame
Resolution chart


TP3
TP2
RV2
TP1
TP4
RV1
LV1
RV4
RV3
E1

VF-18A board (component side)

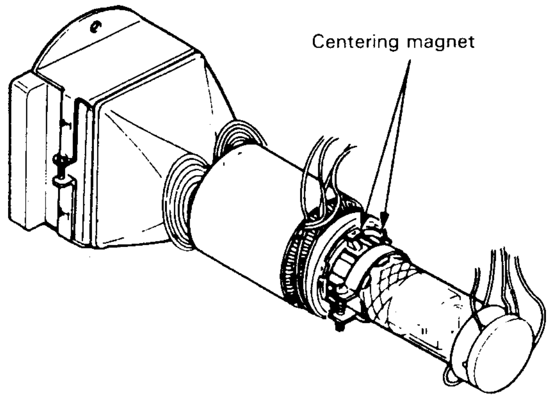

TP1
RV1
RV3
E1
RV2
RV4

VF-23 board (component side)

2-3-7. Centering adjustment

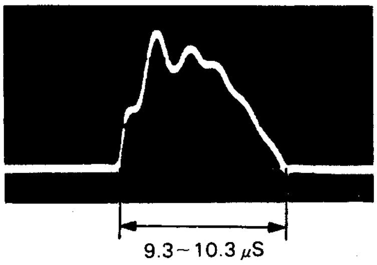
Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-6. V.H deflection size adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Adjustment: Turn the two centering magnets until the Hand V centerings are obtained.

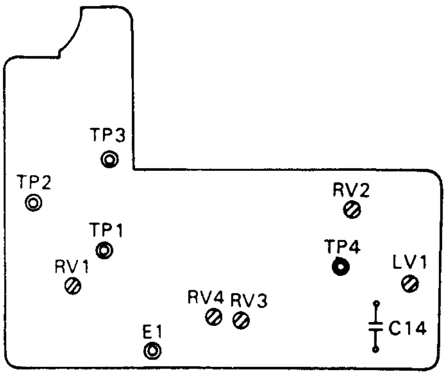


2-3-8. FB pulse wide adjustment

Equipment: Oscilloscope
Test point TP4 (GND:EI)/VF-18A board
Trigger: TP4/VF-18A board
Specification: 9.3 μS to 10.3 μS



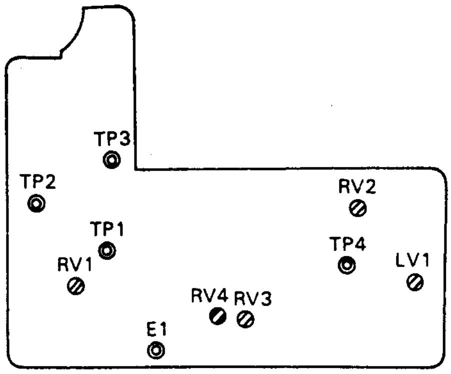
Adjustment: C14/VF-18A board 0.001 μF
0.0022 μF
0.0033 μF
Select one of these for the specification.



VF-18A board (component side)

2-3-9. Bright calibration adjustment

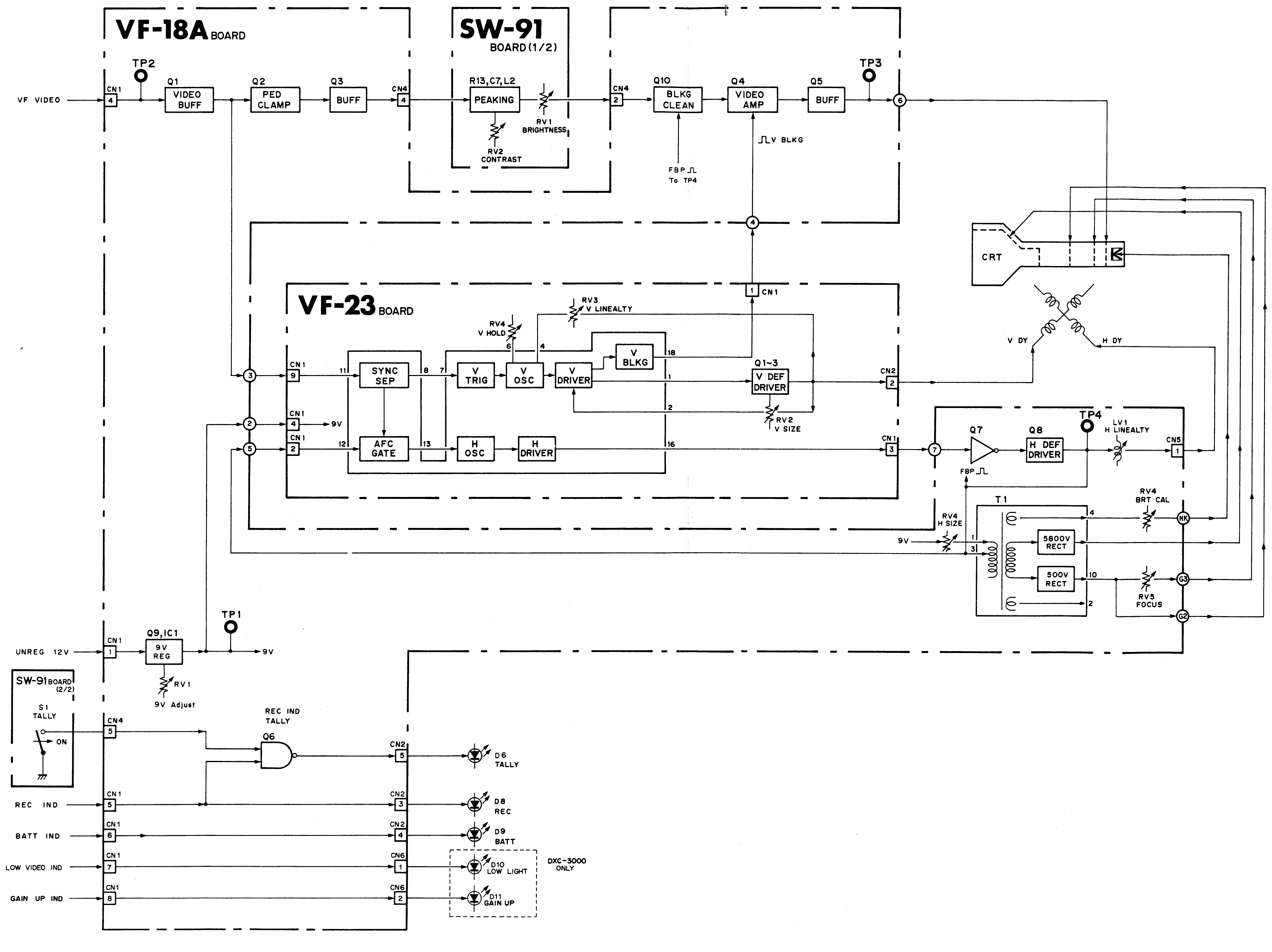
Object: Resolution pattern
Preparation: Turn RV1/SW-91 board (BRIGHTNESS) → fully counterclockwise.
Turn RV2/SW-91 (CONTRAST) → fully clockwise.
Adjustment: Adjust the picture by turning ⊘ RV4/VF-18A counterclockwise from the rightmost position so that the black and white gradation scale is black up to the third step and the fourth step is recognizable.



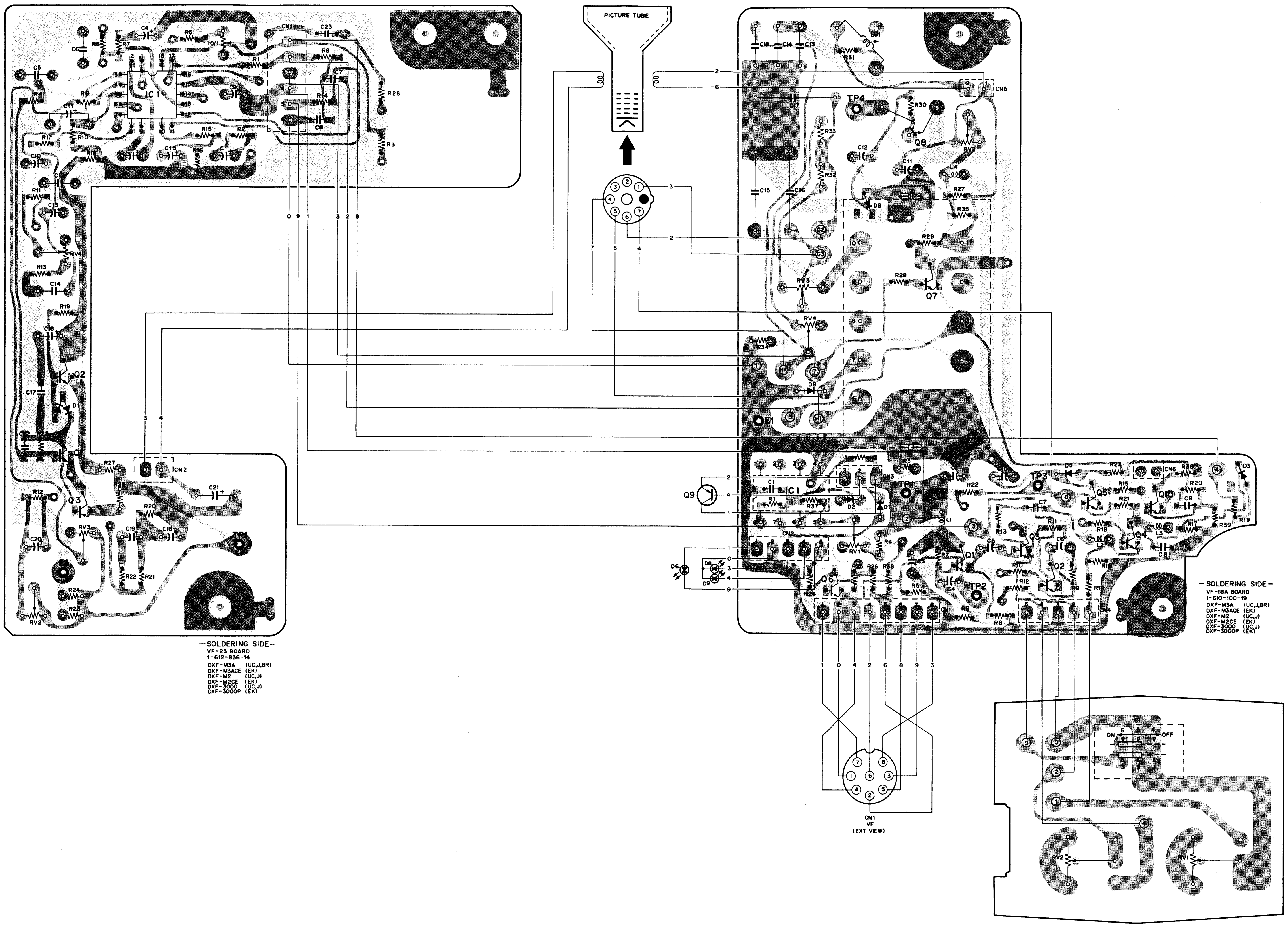
VF-18A board (component side)

SECTION 3
DIAGRAM

3-1. BLOCK DIAGRAM


VF-18A BOARD
SW-91 BOARD (1/2)
VF VIDEO
TP2
CN1 4
Q1 VIDEO BUFF
Q2 PED CLAMP
Q3 BUFF
CN4 4
R13, C7, L2
PEAKING
RV1 BRIGHTNESS
RV2 CONTRAST
CN4 2
Q10 BLKG CLEAN
Q4 VIDEO AMP
Q5 BUFF
TP3
FBP To TP4
V BLKG
CRT
VF-23 BOARD
RV3 V LINEALTY
RV4 V HOLD
SYNC SEP
V TRIG
V OSC
V DRIVER
V BLKG
Q1~3 V DEF DRIVER
AFC GATE
H OSC
H DRIVER
RV2 V SIZE
9V
CN1
CN2
V DY
H DY
TP4
Q7
Q8 H DEF DRIVER
LV1 H LINEALTY
CN5
FBP
T1
RV4 H SIZE
RV4 BRT CAL
5800V RECT
500V RECT
RV5 FOCUS
HK
G3
G2
UNREG 12V
Q9, IC1
9V REG
RV1
9V Adjust
TP1
SW-91 BOARD (2/2)
S1 TALLY
ON
REC IND TALLY
Q6
REC IND
BATT IND
LOW VIDEO IND
GAIN UP IND
CN6
D6 TALLY
D8 REC
D9 BATT
D10 LOW LIGHT
D11 GAIN UP
DXC-3000 ONLY

3-2. MOUNTING DIAGRAM

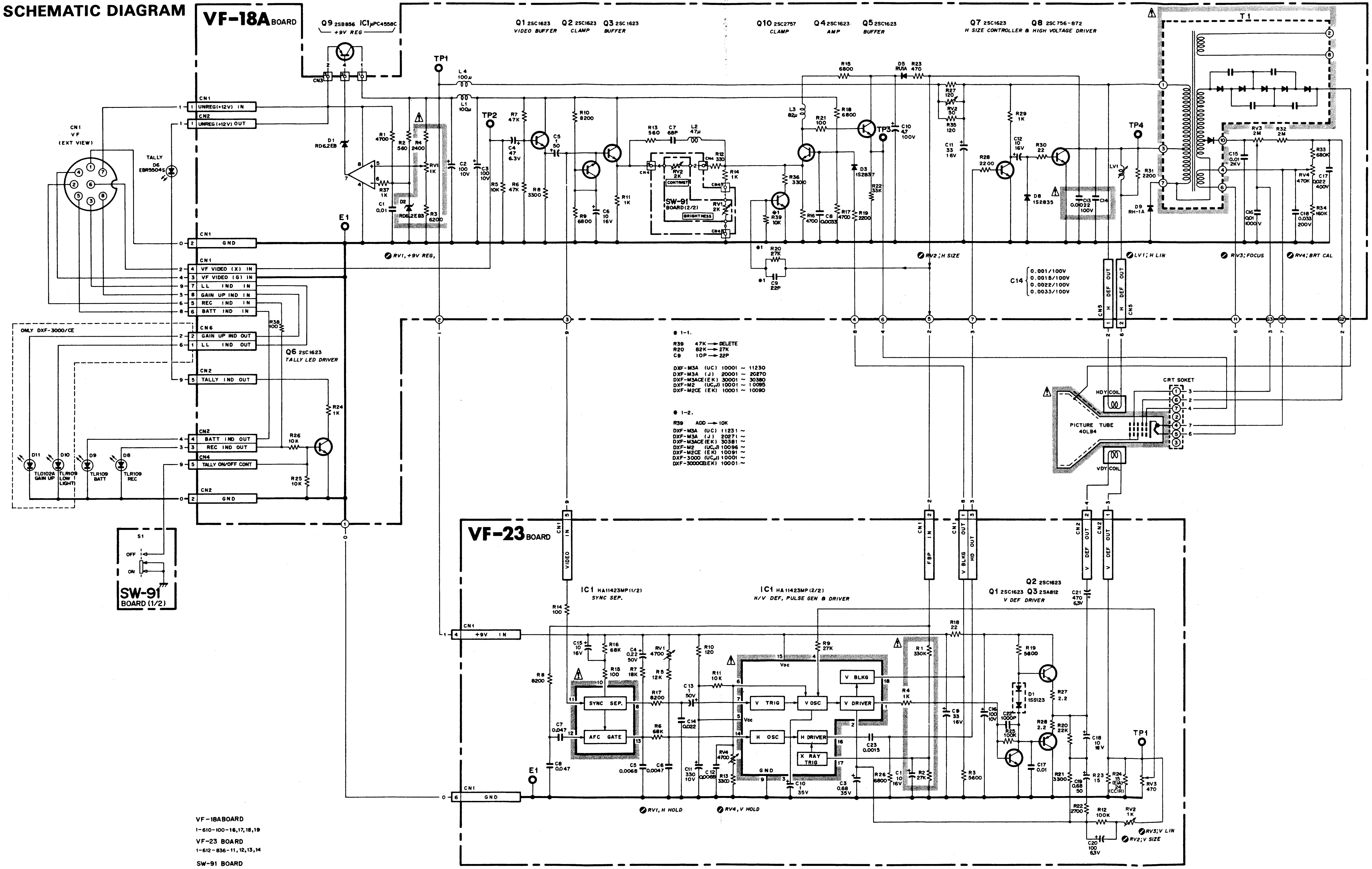

PICTURE TUBE
IC1
CN1
CN2
CN3
CN5
CN6
TP1
TP2
TP3
TP4
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
RV1
RV2
RV3
RV4
D6
D8
D9
E1
ON
OFF
S1
CN1
VF
(EXT VIEW)

—SOLDERING SIDE—
VF-23 BOARD
1-612-836-14
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

—SOLDERING SIDE—
VF-18A BOARD
1-610-100-19
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

—SOLDERING SIDE—
SW-91 BOARD
1-610-102-12
DXF-M3A (UC,J,BR)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000P (EK)

3-3. SCHEMATIC DIAGRAM


VF-18A BOARD
Q9 2SB856 IC1 μPC4558C +9V REG
Q1 2SC1623 VIDEO BUFFER
Q2 2SC1623 CLAMP
Q3 2SC1623 BUFFER
Q10 2SC2757 CLAMP
Q4 2SC1623 AMP
Q5 2SC1623 BUFFER
Q7 2SC1623 H SIZE CONTROLLER
Q8 2SC756-872 HIGH VOLTAGE DRIVER
T1
TP1
TP2
TP3
TP4
E1
CN1 VF (EXT VIEW)
TALLY D6 EBR5504S
CN1 UNREG(+12V) IN
CN2 UNREG(+12V) OUT
CN1 GND
CN1 VF VIDEO (X) IN
VF VIDEO (G) IN
LL IND IN
GAIN UP IND IN
REC IND IN
BATT IND IN
ONLY DXF-3000/CE
CN6 GAIN UP IND OUT
LL IND OUT
CN2 TALLY IND OUT
Q6 2SC1623 TALLY LED DRIVER
CN2 BATT IND OUT
REC IND OUT
CN4 TALLY ON/OFF CONT
CN2 GND
D11 TL0102A GAIN UP
D10 TLR109 LOW LIGHT
D9 TLR109 BATT
D8 TLR109 REC
S1 OFF ON
SW-91 BOARD (1/2)
SW-91 BOARD (2/2)
CONTRAST
BRIGHTNESS
RV1; +9V REG.
RV2; H SIZE
LV1; H LIN
RV3; FOCUS
RV4; BRT CAL
C14 0.001/100V 0.0015/100V 0.0022/100V 0.0033/100V
CN5 H DEF OUT
CRT SOKET
HDY COIL
VDY COIL
PICTURE TUBE 40LB4
VF-23 BOARD
CN1 VIDEO IN
CN1 FBP IN
CN1 V BLKG
HD OUT
CN2 V DEF OUT
IC1 HA11423MP(1/2) SYNC SEP.
IC1 HA11423MP(2/2) H/V DEF, PULSE GEN & DRIVER
Q1 2SC1623 Q2 2SC1623 Q3 2SA812 V DEF DRIVER
CN1 +9V IN
SYNC SEP.
AFC GATE
V TRIG
V OSC
V DRIVER
V BLKG
H OSC
H DRIVER
X RAY TRIG
Vcc
GND
CN1 GND
RV1, H HOLD
RV4, V HOLD
RV3; V LIN
RV2; V SIZE

＊ 1-1.

R39 47K → DELETE
R20 82K → 27K
C9 10P → 22P

DXF-M3A (UC) 10001 ~ 11230
DXF-M3A (J) 20001 ~ 20270
DXF-M3ACE(EK) 30001 ~ 30380
DXF-M2 (UC,J) 10001 ~ 10095
DXF-M2CE (EK) 10001 ~ 10090

＊ 1-2.

R39 ADD → 10K

DXF-M3A (UC) 11231 ~
DXF-M3A (J) 20271 ~
DXF-M3ACE(EK) 30381 ~
DXF-M2 (UC,J) 10096 ~
DXF-M2CE (EK) 10091 ~
DXF-3000 (UC,J) 10001 ~
DXF-3000CE(EK) 10001 ~

VF-18ABOARD
1-610-100-16,17,18,19

VF-23 BOARD
1-612-836-11,12,13,14

SW-91 BOARD
1-610-102-11,12

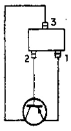
DXF-M3A (UC)
DXF-M3A (J)
DXF-M3ACE (EK)
DXF-M2 (UC,J)
DXF-M2CE (EK)
DXF-3000 (UC,J)
DXF-3000CE(EK)

SECTION 4
SEMICONDUCTOR PIN ASSIGNMENTS

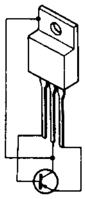
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< Tr >

TOP VIEW (SCALE 4/1) *2SA812*

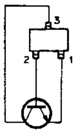


2SB856



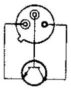
TOP VIEW (SCALE 4/1)

2SC1623
2SC2757



BOTTOM VIEW

2SC756



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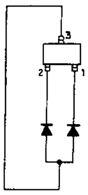
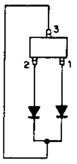
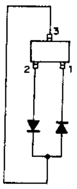
TOP VIEW (SCALE 4/1) *1S2835*



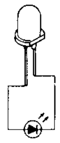
TOP VIEW (SCALE 4/1) *1S2837*

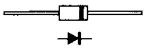


TOP VIEW (SCALE 4/1) *1SS123*

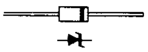


EBR5504S ; RED

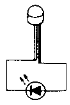




RH1
RH1A



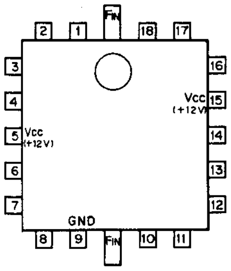
RD 7 7EB

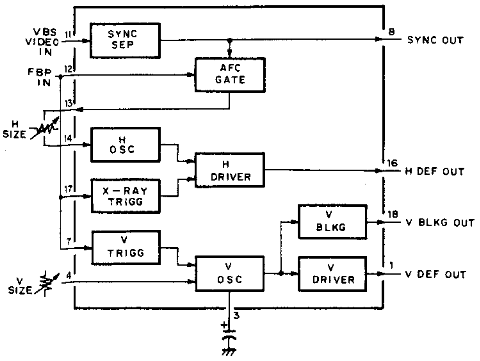


TLO102A ; ORANGE

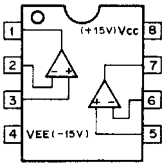
< IC >

HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
— TOP VIEW —


FIN
2
1
18
17
3
4
5
6
7
16
15
14
13
12
Vcc (+12V)
Vcc (+12V)
GND
8
9
FIN
10
11


VBS VIDEO IN
11
SYNC SEP
8
SYNC OUT
FBP IN
12
AFC GATE
13
H SIZE
14
H OSC
H DRIVER
16
H DEF OUT
17
X-RAY TRIGG
V BLKG
18
V BLKG OUT
7
V TRIGG
V SIZE
4
V OSC
V DRIVER
1
V DEF OUT
3

uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
(+15V) Vcc
8
7
6
5
VEE (-15V)

SECTION 5
SPARE PARTS

5-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**"

   - This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
   - Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	IC	IC	R	RESISTOR
CN	CONNECTOR	L	INDUCTOR	RV	VARIABLE RESISTOR
D	DIODE	LV	VARIABLE INDUCTOR	S	SWITCH
HT		Q	TRANSISTOR	T	TRANSFORMER

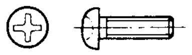
6. Screws
   - All the screws used in this machine are the TOTSU type unless otherwise noted. The screws are interchangeable with the Phillips type (⊕) and slotted type (⊖) screws.

PRECISION +P
Bzn-N

7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	–
x 2	552-28
x 2.2	–
x 2.5	552-08
x 2.8	–
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	–
x 5	552-58
x 5.5	–
x 6	–
2 x 1.8	554-38
x 2	553-18
x 2.2	–
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	–
x 5.5	–
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	–
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	–
x 6	556-78
x 7	–
x 8	–
x 9	–
x 10	–

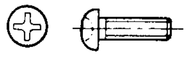
+B
Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

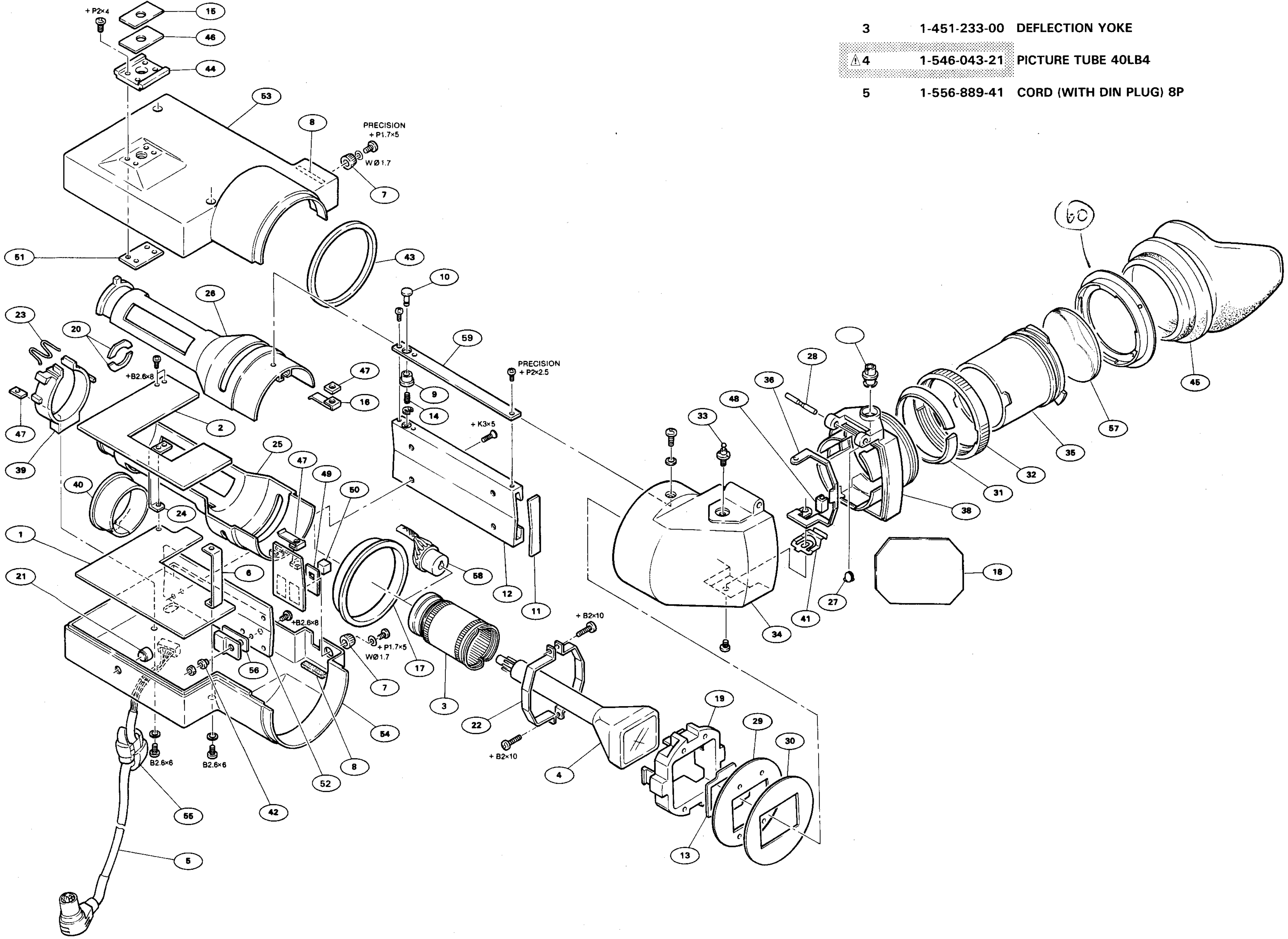
+B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

EXPLODED VIEW


+P2×4
15
46
44
53
8
PRECISION
+P1.7×5
WØ1.7
7
51
43
10
26
23
20
+B2.6×8
47
16
59
PRECISION
+P2×2.5
9
14
+K3×5
2
47
39
25
47
49
50
40
24
1
6
21
58
12
11
+B2.6×8
+P1.7×5
WØ1.7
7
17
56
3
+B2×10
22
+B2×10
4
54
8
52
B2.6×6
B2.6×6
55
42
5
19
29
30
13
33
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60

No.	Part No.	Description
⚠1	A-7513-073-A	MOUNTED CIRCUIT BOARD "VF-18A"
⚠2	A-7513-075-A	MOUNTED CIRCUIT BOARD "VF-23"
3	**1-451-233-00**	**DEFLECTION YOKE**
⚠4	**1-546-043-21**	**PICTURE TUBE 40LB4**
5	**1-556-889-41**	**CORD (WITH DIN PLUG) 8P**
6	2-277-452-00	BRACKET (B), PC BOARD
7	2-277-453-00	KNOB, CONTROL
8	2-277-454-00	CUSHION, SWITCH
9	2-277-456-00	COLLALR, STOPPER
10	**2-277-457-00**	**KNOB, CONTROL**
11	2-277-458-00	RUBBER, STOPPER
12	2-277-459-00	GUIDE, VF SLIDE
13	2-277-464-00	ILLUMINATOR
14	2-277-466-01	SPRING, COMPRESSION
15	2-277-468-01	PLATE,ORNAMENTAL, CAMERA SHOE
16	2-277-469-01	TERMINAL, VF GROUND
17	2-381-409-02	RING, SLEEVE
18	2-381-411-00	MIRROR
19	2-381-419-00	HOLDER, CRT
20	2-381-420-00	RETAINER, CRT
21	2-381-421-00	HOLDER,LED
22	2-381-423-00	BAND, CRT
23	2-381-424-11	SPRING
24	2-381-427-00	STOPPER, PC BORAD
25	2-381-428-04	CASE(REAR)(1), CRT
26	2-381-429-05	CASE(REAR)(2), CRT
27	**2-381-461-02**	**PIN, BLIND**
28	2-381-462-01	PIN
29	2-381-463-01	SHEET, ADHESIVE, LABEL
30	2-381-465-01	PLATE, ORNAMENTAL, CRT
31	2-381-466-01	RING, RETAIER
32	2-381-467-01	RING (2), LENS
33	**2-381-468-01**	**RING, STOPPER**
34	2-381-469-01	TUBE, VF
35	2-381-470-02	HOLDER, LENS
36	2-381-471-01	HOLDER, MIRROR
37	2-381-472-02	STOPPER
38	2-381-473-02	LID
39	2-381-476-01	HOLDER(B), CRT CASE
40	2-381-477-01	RING(C)
41	2-381-478-02	CLAW, LOCK
42	**2-832-007-00**	**BUSHING (K), INSULATING**
43	**3-561-892-01**	**BELT, COUNTER**
44	**3-657-700-01**	**BRACKET, ACCESSORY**
45	**3-657-771-02**	**EYECUP (2)**
46	3-672-213-00	SHEET, ADHESIVE
47	3-673-015-00	PLATE, NUT(M2.6)
48	3-678-515-11	EDGING, RUBBER
49	3-680-604-01	PLATE, BLIND
50	3-680-605-00	CAP, SLIDE
51	3-688-709-01	NUT, PLATE, SHOE
52	3-688-718-01	NUT, PLATE, CASE
53	3-688-719-01	COVER(UPPER), VF
54	3-688-720-01	COVER, (LOWER), VF
55	**3-703-001-00**	**BUSHING, CORD**
56	**3-703-037-00**	**INSULATOR, TO-220**
57	3-657-626-00	LOUPE, FINDER
58	1-526-540-00	SCOKET, CRT
59	2-277-463-01	LABEL, SLIDE BLOCK
60	2-381-426-01	

VF-18A BOARD

Ref. No.	Part No.	Description
	⚠A-7513-073-A	MOUNTED CIRCUIT BOARD "VF-18A" (UC,J)
	⚠A-7513-074-A	MOUNTED CIRCUIT BOARD "VF-18A" (EK)
C1	1-163-021-00	CERAMIC CHIP 0.01 50V
C2	1-124-139-00	ELECT 100 20% 10V
C3	1-124-139-00	ELECT 100 20% 10V
C4	1-123-647-00	ELECT 47 20% 6.3V
C5	1-123-611-00	ELECT 1 20% 50V
C6	1-123-617-00	ELECT 10 20% 16V
C7	1-163-247-00	CERAMIC CHIP 68PF 5% 50V
C8	1-163-015-00	CERAMIC CHIP 0.0033 10% 50V
C9	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C10	1-123-383-00	ELECT 4.7 20% 100V
C11	1-131-374-00	TANTALUM 33 10% 16V
C12	1-131-371-00	TANTALUM 10 10% 16V
⚠C13	1-108-369-00	MYLAR 0.0022 10% 100V
⚠C14	1-106-172-00	MYLAR 0.001 10% 100V
	1-108-367-00	MYLAR 0.001 10% 100V
	1-108-369-00	MYLAR 0.0022 10% 100V (EK)
	1-106-184-00	MYLAR 0.0033 10% 100V (EK)
C15	1-162-445-11	CERAMIC 0.01 2KV
C16	1-102-047-21	CERAMIC 0.01 1KV
C17	1-130-802-00	FILM 0.022 5% 400V
C18	1-108-427-00	MYLAR 0.033 10% 200V
CN1	1-564-007-00	RECEPTACLE, 8P MALE
CN2	1-564-004-00	RECEPTACLE, 5P MALE
	1-562-150-00	PLUG HOUSING 5P
	1-564-026-00	PLUG CONTACT
CN3	1-564-002-00	RECEPTACLE, 3P MALE
	1-562-148-00	PLUG HOUSING 3P
	1-562-026-00	PLUG CONTACT
CN4	1-564-004-00	RECEPTACLE, 5P MALE
	1-562-150-00	PLUG HOUSING 5P
	1-564-026-00	PLUG CONTACT
CN5	1-564-001-11	RECEPTACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN6	1-564-001-11	RECEPTACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT

Ref No.	Part No.	Description
D1	8-719-100-39	RD6.2EB3
⚠D2	8-719-100-39	RD6.2EB3
D3	8-719-100-05	1S2837
D5	8-719-300-86	RU1A
D8	8-719-100-03	1S2835
D9	8-719-300-76	RH1A
⚠IC1	8-759-145-58	μPC4558C
L1	1-407-169-00	MICRO 100
L2	1-407-165-00	MICRO 47
L3	1-407-168-00	MICRO 82
L4	1-407-169-00	MICRO 100
LV1	1-459-203-00	350/103
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q6	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-727-587-28	2SC756-872
Q10	8-729-175-73	2SC2757
R1	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R2	1-216-043-00	METAL CHIP 560 5% 1/10W
⚠R3	1-215-440-00	METAL 6.2K 1% 1/6W
⚠R4	1-215-430-00	METAL 2.4K 1% 1/6W
R5	1-216-073-00	METAL CHIP 10K 5% 1/10W
R6	1-216-089-00	METAL CHIP 47K 5% 1/10W
R7	1-216-089-00	METAL CHIP 47K 5% 1/10W
R8	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R9	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R10	1-216-071-00	METAL CHIP 8.2K 5% 1/10W

Ref. No.	Part No.	Description
R11	1-216-049-00	METAL CHIP 1K 5% 1/10W
R12	1-216-037-00	METAL CHIP 330 5% 1/10W
R13	1-216-043-00	METAL CHIP 560 5% 1/10W
R14	1-216-049-00	METAL CHIP 1K 5% 1/10W
R15	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R16	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R17	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R18	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R19	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R20	1-216-083-00	METAL CHIP 27K 5% 1/10W
R21	1-216-025-00	METAL 100 5% 1/10W
R22	1-216-085-00	METAL CHIP 33K 5% 1/10W
R23	1-216-041-00	METAL CHIP 470 5% 1/10W
R24	1-216-049-00	METAL CHIP 1K 5% 1/10W
R25	1-216-073-00	METAL CHIP 10K 5% 1/10W
R26	1-216-073-00	METAL CHIP 10K 5% 1/10W
R27	1-216-027-00	METAL CHIP 120 5% 1/10W
R28	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R29	1-216-049-00	METAL CHIP 1K 5% 1/10W
R30	1-216-009-00	METAL CHIP 22 5% 1/10W
R31	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R32	1-214-971-00	METAL 2M 1% 1/4W
R33	1-215-489-00	METAL 680K 1% 1/6W
R34	1-215-474-00	METAL 160K 1% 1/6W
R35	1-216-027-00	METAL CHIP 120 5% 1/10W
R36	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R37	1-216-049-00	METAL CHIP 1K 5% 1/10W
R38	1-216-025-00	METAL CHIP 100 5% 1/10W
R39	1-216-073-00	METAL CHIP 10K 5% 1/10W
⚠RV1	1-228-888-00	METAL 1K
RV2	1-228-452-00	METAL 50
RV3	1-226-279-00	METAL 2M
RV4	1-228-897-00	METAL 470K
⚠T1	1-453-097-11	HIGH VOLTAGE BLOCK

VF-23 BOARD

Ref. No.	Part No.	Description
	⚠A-7513-075-A	MOUNTED CIRCUIT BOARD "VF-23" (UC,J)
	⚠A-7513-076-A	MOUNTED CITCUIT BOARD "VF-23" (EK)
C1	1-123-617-00	ELECT 10 20% 16V
C3	1-131-346-00	TANTALUM 0.68 10% 35V
C4	1-123-608-00	ELECT 0.22 20% 50V
C5	1-130-481-00	MYLAR 0.0068 5% 50V
C6	1-130-479-00	MYLAR 0.0047 5% 50V
C7	1-163-035-00	CERAMIC CHIP 0.047 50V
C8	1-163-035-00	CERAMIC CHIP 0.047 50V
C9	1-131-374-00	TANTALUM 33 10% 16V
C10	1-131-347-00	TANTALUM 1 10% 35V
C11	1-124-141-00	ELECT 330 20% 10V
C12	1-130-481-00	MYLAR 0.0068 5% 50V
C13	1-123-611-00	ELECT 1 20% 50V
C14	1-130-487-00	MYLAR 0.022 5% 50V
C15	1-123-617-00	ELECT 10 20% 16V
C16	1-124-139-00	ELECT 100 20% 10V
C17	1-163-021-00	CERAMIC CHIP 0.01 50V
C18	1-123-617-00	ELECT 10 20% 16V
C19	1-123-902-00	ELECT 0.68 20% 50V
C20	1-123-661-00	ELECT 100 20% 6.3V
C21	1-124-135-00	ELECT 470 20% 6.3V
C22	1-163-141-00	CERAMIC CHIP 0.001 10% 50V
C23	1-163-145-00	CERAMIC CHIP 0.0015 10% 50V
CN1	1-564-005-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN2	1-564-001-11	RECEPRACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
D1	8-719-101-23	1SS123
⚠IC1	8-759-300-28	HA11423MP: HITACHI

VF-23, SW-91, VIEWFINDER FRAME

Ref. No.	Part No.	Description
Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-76	2SA812
⚠R1	1-216-109-00	METAL 330 5% 1/10W
⚠R2	1-216-083-00	METAL CHIP 27K 5% 1/10W
R3	1-216-067-00	METAL 5.6K 5% 1/10W
R4	1-216-049-00	METAL CHIP 1K 5% 1/10W
R5	1-216-075-00	METAL CHIP 12K 5% 1/10W
R6	1-216-093-00	METAL CHIP 68K 5% 1/10W
R7	1-216-079-00	METAL CHIP 18K 5% 1/10W
R8	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R9	1-216-083-00	METAL CHIP 27K 5% 1/10W
R10	1-216-027-00	METAL CHIP 120 5% 1/10W
R11	1-216-073-00	METAL CHIP 10K 5% 1/10W
R12	1-216-097-00	METAL CHIP 100K 5% 1/10W
R13	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R14	1-216-025-00	METAL CHIP 100 5% 1/10W
R15	1-216-025-00	METAL CHIP 100 5% 1/10W
R16	1-216-093-00	METAL CHIP 68K 5% 1/10W
R17	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R18	1-216-009-00	METAL CHIP 22 5% 1/10W
R19	1-216-067-00	METAL CHIP 5.6K 5% 1/10W
R20	1-216-081-00	METAL CHIP 22K 5% 1/10W
R21	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R22	1-216-059-00	METAL CHIP 2.7K 5% 1/10W
R23	1-215-377-00	METAL 15 1% 1/6W
R24	1-215-377-00	METAL 15 1% 1/6W (UC,J)
R24	1-215-382-00	METAL 24 1% 1/6W (EK)
R25	1-216-097-00	METAL CHIP 100K 5% 1/10W
R26	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R27	1-247-767-00	CARBON 2.2 5% 1/6W
R28	1-247-767-00	CARBON 2.2 5% 1/6W
RV1	1-228-890-00	METAL 4.7K
RV2	1-228-888-00	METAL 1K
RV3	1-228-887-00	METAL 470
RV4	1-228-890-00	METAL 4.7K

SW-91 BOARD

Ref. No.	Part No.	Description
	1-610-102-00	PRINTED CIRCUIT BOARD "SW-91"
RV1	1-230-075-00	CARBON 2K
RV2	1-230-075-00	CARBON 2K
S1	1-554-078-21	SLIDE

VIEWFINDER FRAME

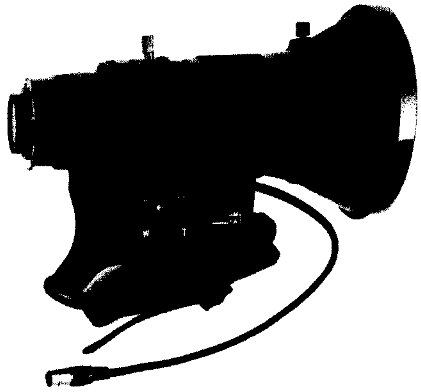
Ref. No.	Part No.	Description
	⚠1-526-540-00	SOCKET, CRT
	⚠1-546-043-21	PICTURE TUBE 40LB4
CN1	1-556-889-41	8P PLUG WITH HARNESS (VF)
CN2	1-451-233-00	DEFLECTION YOKE
D6	8-719-905-56	EBR5504A LED "TALLY"
D8	8-719-800-25	TLR109A "REC"
D9	8-719-800-25	TLR109A "BATTERY"
D10	8-719-800-25	TLR109A "LOW LIGHT"
D11	8-719-800-19	TLR102A "+18 dB"
Q9	8-29-315-63	2SB856

PACKING MATERIAL AND ACCESSORIES

Ref. No.	Part No.	Description
	2-277-467-02	CUSHION, LOWER
	2-381-442-00	CARTON, INDIVIDUAL
	2-381-443-00	CUSHION, UPPER
	3-701-613-00	**BAG, POLY (FOR VF CONNECTOR)**
	3-701-630-00	**BAG, POLY (FOR MANUAL AND DXF-3000/3000CE)**

ZOOM LENS

VCL-1012BY



SPECIFICATION

Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm ($24\frac{1}{4}$ x $32\frac{3}{8}$ inches) T (telephoto): 51.4 x 68.5 mm ($2\frac{1}{32}$ x $2\frac{11}{16}$ inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm ($4\frac{3}{4}$ x $8\frac{1}{32}$ inches)

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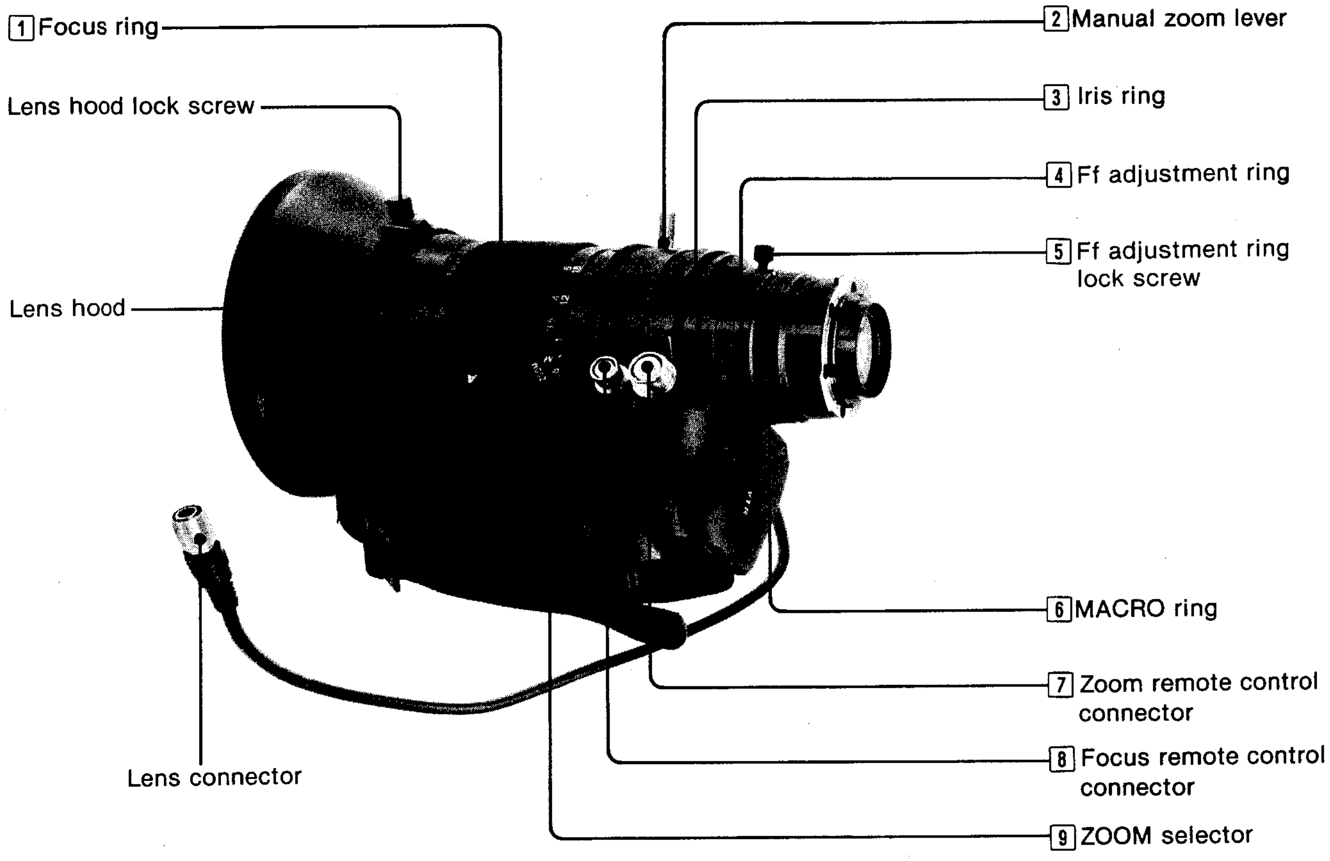
1-1. LOCATION AND FUNCTION OF CONTROLS 1-1
1-2. SYSTEM SET-UP 1-3

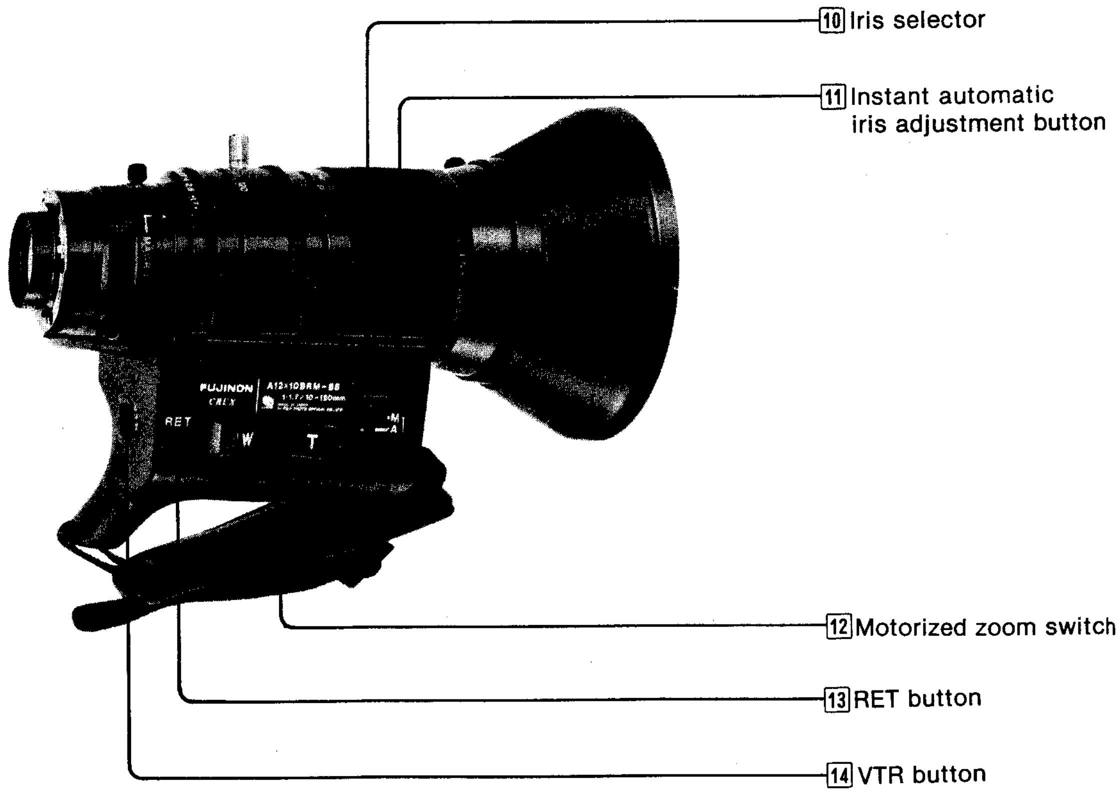
2. SPARE PARTS

2-1. EXPLODED VIEW 2-1

SECTION 1
GENERAL DESCRIPTION

1-1. LOCATION AND FUNCTION OF CONTROLS


1 Focus ring
Lens hood lock screw
Lens hood
Lens connector
2 Manual zoom lever
3 Iris ring
4 Ff adjustment ring
5 Ff adjustment ring lock screw
6 MACRO ring
7 Zoom remote control connector
8 Focus remote control connector
9 ZOOM selector


10 Iris selector
11 Instant automatic iris adjustment button
FUJINON
RET
W
T
12 Motorized zoom switch
13 RET button
14 VTR button

1 Focus ring
Turn this ring for focusing.

2 Manual zoom lever
For manual zooming, turn this lever with the ZOOM selector set to M.

3 Iris ring
For manual iris adjustment, turn this ring with the iris selector set to M.

4 Ff (flange focal length) adjustment ring
Turn to adjust the flange focal length. See page 1-26.

5 Ff (flange focal length) adjustment ring lock screw
Locks the Ff ring at the adjusted position.

6 MACRO (close-up) ring
Used for close-ups. See page 1-33.

7 Zoom remote control connector (8-pin)
Connect an LO-23 lens remote control unit (optional) for remote control of zooming when the camera is attached to a tripod.

8 Focus remote control connector (3-pin)
This connector is used for motorized focusing.

9 ZOOM selector
S: For motorized zooming.
M: For manual zooming.

10 Iris selector
A: For automatic iris adjustment.
M: For manual iris adjustment.

11 Instant automatic iris adjustment button
The iris is automatically adjusted while this button is kept depressed, when the iris selector 10 is set to M. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

12 Motorized zoom switch
Press either end of this switch for motorized zooming with the ZOOM selector set to S: W for a wide-angle picture and T for a telephoto picture. Zooming is faster when the switch is pressed down all the way and slower when the switch is pressed down only slightly.

13 RET (return video) button
Press to view the picture from the VTR during recording, the playback picture during playback, or the signal from a controle console such as a video switcher on the viewfinder screen. This button has the same function as the VTR START/RETURN VIDEO button of the camera (return video switch) when a CCU-M3/M3P is connected.

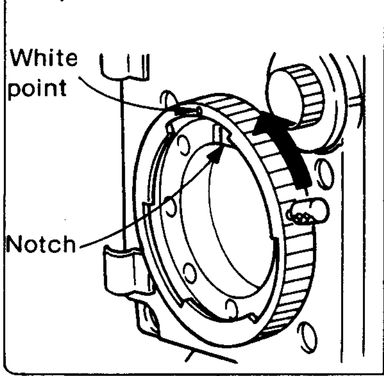
14 VTR button
When a portable VTR is connected to the camera, press this button to start and stop recording. This button has the same function as the VTR START/RETURN VIDEO button of the camera (start switch).

1-2. SYSTEM SET-UP

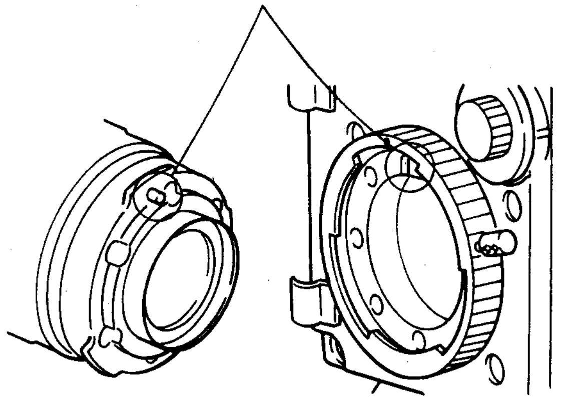
LENS ATTACHMENT

Notes
Before attaching the lens, remove the protective caps from the mounts of the camera and the lens.

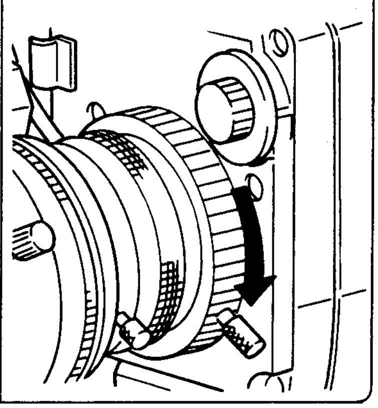
1 Turn the mount clamp ring to match its white point to the lens notch.

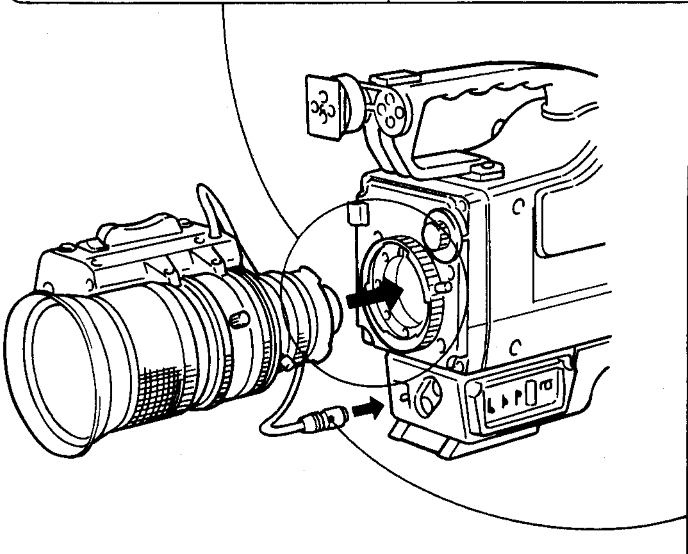

White point
Notch

2 Align and insert the lens into the lens mount.

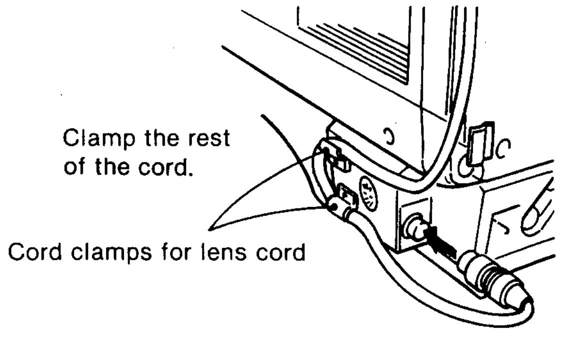


3 Tighten the ring to secure the lens.





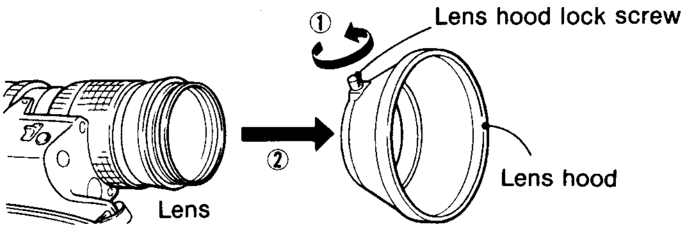
4 Connect the lens cable to the LENS connector.

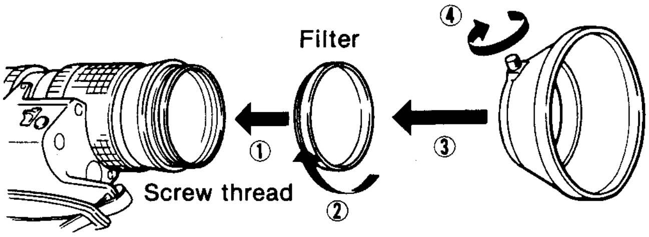

Clamp the rest of the cord.
Cord clamps for lens cord

How to attach an optional filter to the lens

1 Loosen the lens hood lock screw and detach the lens hood.

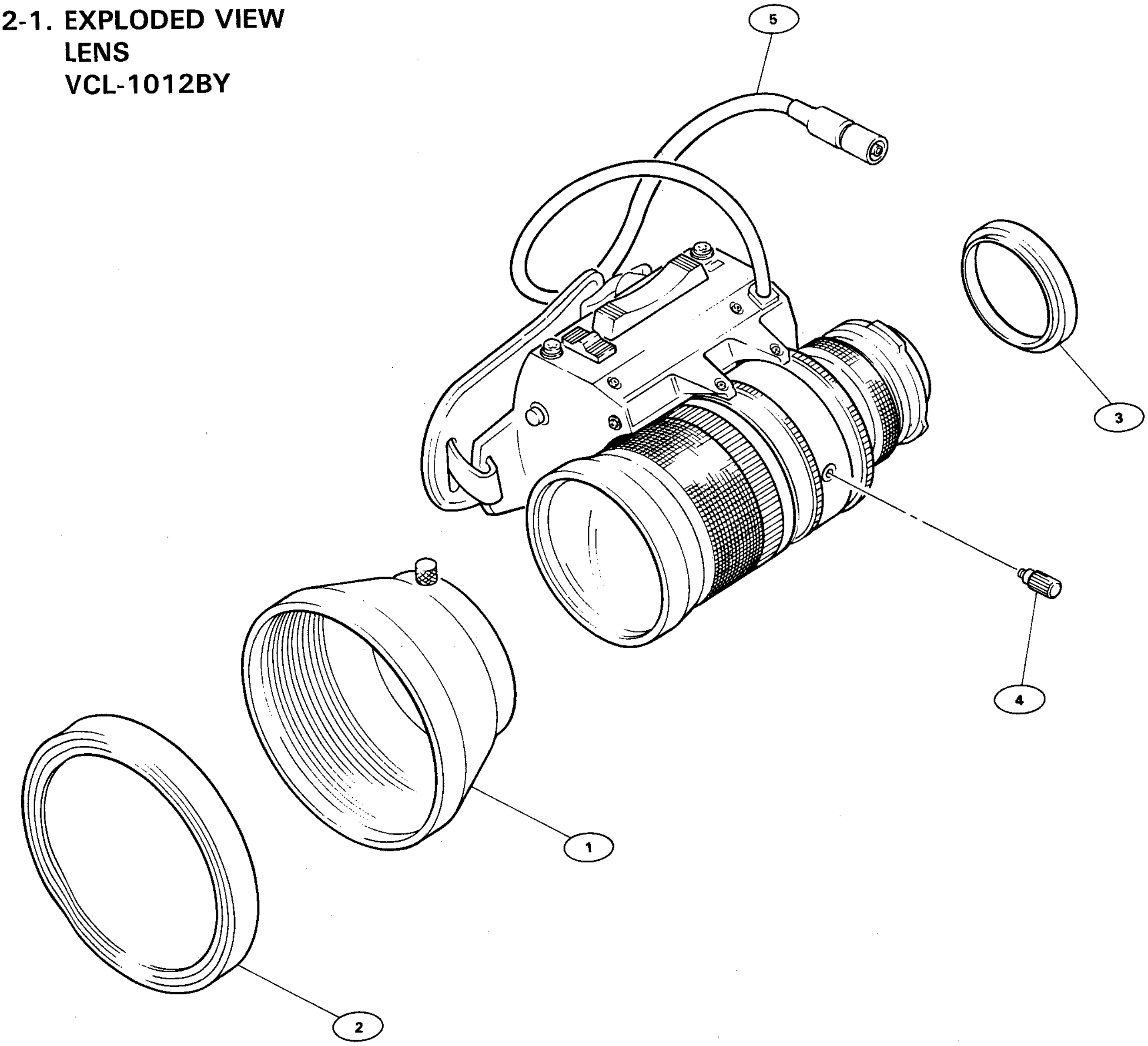
2 Screw the filter into the screw thread at the front of the lens. Then attach the lens hood and tighten the lens hood lock screw.


①
Lens hood lock screw
②
Lens hood
Lens


④
Filter
①
③
Screw thread
②

SECTION 2
SPARE PARTS

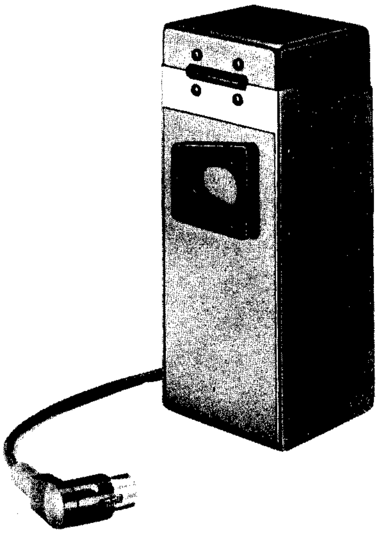
2-1. EXPLODED VIEW
LENS
VCL-1012BY



No.	Parts No.	Description
1	3-707-244-01	HOOD
2	3-707-245-01	CAP, HOOD
3	3-707-246-01	CAP, DAST
4	3-707-247-01	LEVER, ZOOM
5	**1-558-472-11**	**CABLE, WITH 6P PLUG**

BATTERY ADAPTOR

DC-8



SPECIFICATION

Usable battery	Two NP-1 battery packs
Output voltage	11 V to 14.5 V dc
Weight	Approx. 580 g (1 lb 4 oz)
Dimensions	Approx. 91.2 × 207.5 × 91.8 mm (w/h/d) (3 5/8 × 8 1/4 × 3 5/8 inches)

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1-3. How to Detach the Battery Adaptor 1-1

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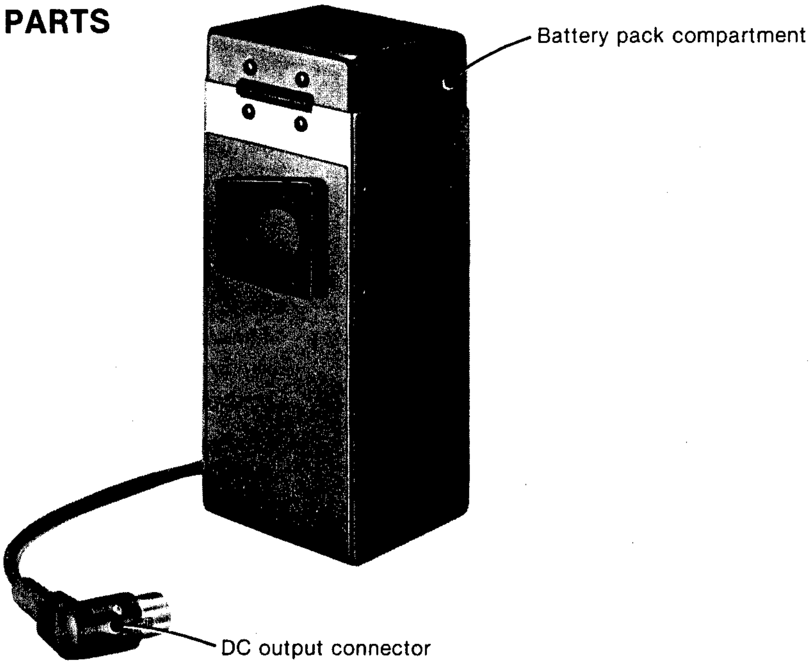
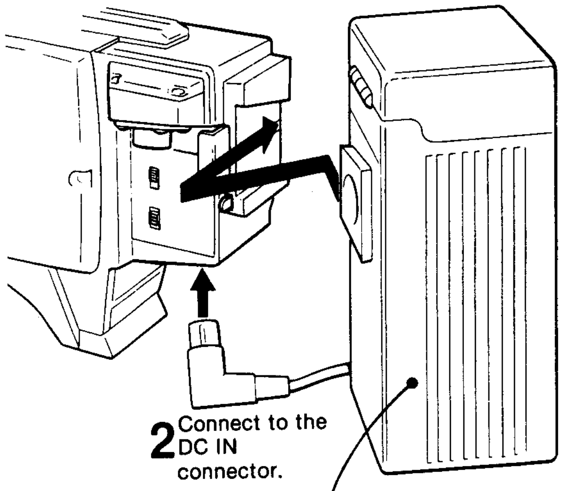
SECTION 1
GENERAL DESCRIPTION

1-1. LOCATION OF PARTS


Battery pack compartment
DC output connector

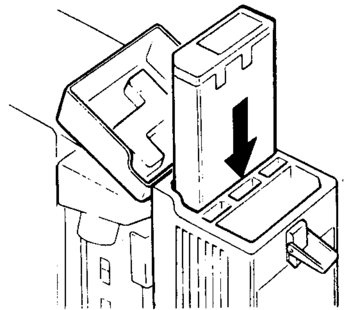
1-2. HOW TO ATTACH THE BATTERY ADAPTOR

1 Insert the battery adaptor into the battery adaptor shoe on the camera.



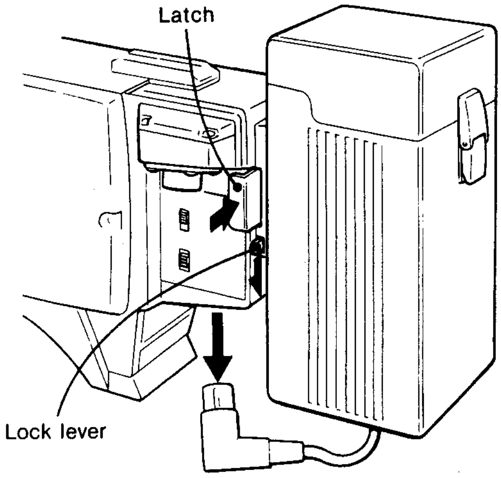
2 Connect to the DC IN connector.

3 Insert two NP-1 battery packs into the battery pack compartment.



1-3. HOW TO DETACH THE BATTERY ADAPTOR

While pressing down the lock lever, push the latch in.


Latch
Lock lever

Disconnect the plug.

SECTION 2
SPARE PARTS

2-1. PARTS INFORMATION

Notes on Repair Parts

(1) Safety Related Components Warning

> Components identified by shading marked with ⚠ on the exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

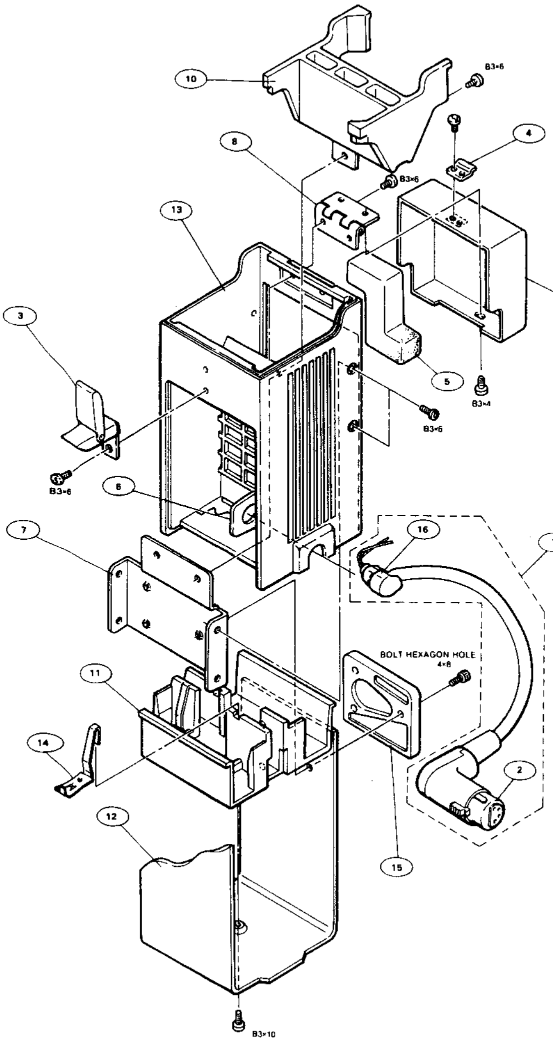
Repair parts supplied from Sony Parts Center may not be always identical with the part which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

This manual's exploded views and electrical spare parts list are indicating the parts numbers of "the standardized genuine parts at present".

(3) Stock of Parts

Parts marked with ( ) on the spare parts list are not normally required for routine service work. Orders for parts marked with ( ) will be processed, but allow for additional delivery time.

2-2. EXPLODED VIEW



No.	Parts no.	Description
1	1-557-553-11	CORD (WITH ROUND CONNECTOR) 4P
3	() 2-266-239-01	STOPPER (A),LID P TYPE
4	() 2-266-240-01	STOPPER (B),LID P TYPE
5	() 2-381-449-01	CUSHION, BATT
6	() 2-381-450-01	PLATE, CLAMP, CORD
7	() 2-381-451-01	BRACKET, SHOE
8	() 2-381-452-01	HINGE
9	() 2-381-453-01	BATT, LID
10	() 2-381-454-01	GUIDE, BATTERY
11	() 2-381-455-01	CASE, CONTACT
12	() 2-381-456-01	COVER, CASE
13	() 2-381-457-01	CASE, BATT
14	3-676-314-01	CONTACT
15	() 3-680-682-02	SHOE, BATT
16	3-703-001-01	BUSHING, CORD
PACKING		
	2-266-234-01	CARTON, INDVUDAL
	2-381-459-01	CUSTION, UPPER
	2-381-460-01	CUSTION, LOWER
	3-701-625-01	BAG POLY